

# Service

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200WP7EB/00  
200WP7ES/00  
200WP7ES/01



# Service Manual

Horizontal frequencies  
30 - 98 KHz

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### SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

## Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all Philips Consumer Electronics Company\*\* Equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

\* \*Hereafter throughout this manual, Philips Consumer Electronics Company will be referred to as Philips.

### **WARNING**

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line\* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

\* Broken Line

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Take care during handling the LCD module with Backlight unit

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person's body are grounded through wrist band.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

FOR PRODUCTS CONTAINING LASER :

**DANGER-** Invisible laser radiation when open.  
AVOID DIRECT EXPOSURE TO BEAM.

**CAUTION-** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**CAUTION-** The use of optical instruments with this product will increase eye hazard.



ELECTRICAL SPECIFICATION

## 1. General

## 1.1. Product description

The Hudson 7, 20.1" WSXGA TFT flat panel monitor is specified as a display peripheral with Analog video signal input, Digital video input 20.1" TFT LCD display.

Horizontal scan range is 30 - 98K Hz and refresh range is 56 - 76 Hz. This scan range allows it to display resolution up to 1680\*1050 non-interlaced at 60 Hz refresh rate. The image can be adjust through OSD control, these adjustments can be stored on an board memory including 40 preset modes and 15 factory preset modes.

All optical characteristics (including WHITE-D, Brightness, and so on) are determined according to panel specification after warming up approximate 30 minutes that brightness stability is optimal, and follows strictly after panel specification

## 1.2 Destination:

## 1.3. Basic data

## 1.3.1 LCD panel

Type NR.	: M201EW01 V0 (AUO)
Outside dimensions	: 459.4(H)*296.4(V)*22.8(D) (Typ) mm
Pixel Pitch ( mm )	: 0.258 mm x 0258mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.7M colors (8 bits)
Backlight	: Six CCFL's
Active area(WxH)	: 433.44x270.9mm (20.1" W diagonal)
View angle	: Horizontal 176& Vertical 176 degree (CR>=10)
Contrast ratio	: 800:1 (Typ) ,400 :1 (min)
White luminance	: Panel original color >240nits (min), 300 nits (Typ.)

## 1.3.2. Power supply

Main voltage : AC 90 - 135 Vrms and 170 - 264 Vrms, 50/60±2 Hz

Power cord length : 1.8M

Power cord type : 3 lead with earth plug

Power indicator : LED (ON: green, Standby: amber, NEW MODE: flashing Green twice per second before user adjusts and save it).

Auto power saving : EPA, Nutek, VESA DPMS

Mode	H SYNC	V SYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	< 60 W < 48W w/o USB	Green LED	
Off	Off	On	blanked	< 2.0 W	Amber LED	< 3 s
Off	On	Off	blanked	< 2.0 W	Amber LED	< 3 s
Off	Off	Off	blanked	< 2.0 W	Amber LED	< 3 s
DC Power Off			N/A	< 1.0 W	LED Off	

1.3.3. Horizontal scan : 30 - 98 KHz

1.3.4. Vertical scan : 56 - 76 Hz

## 1.3.5. Input signals

## 1.Signal input level

Video : 0.7 Vp-p Linear / 75 ohms

Sync : H/H+V, V TTL level, composite sync, sync on green Impedance

Video : Terminated with 75 ohms

Sync : Terminated with 2K2 ohms

The input signals can be applied in two different modes:

## 1). VESA Analog

Input signal: Video, Hsync., Vsync

Video: 0.7 Vp-p, input impedance, 75 ohms @DC

Sync. : Separate sync TTL level, input impedance 5k ohms

Hor. sync Positive/Negative

Ver. sync Positive/Negative

## 2). Intel DVI Digital

Input signal: Four channel TMDS signals

## 1.3.6 Input connectors

## (1) Input analog D-sub connector pin assignment

PIN No.	SIGNAL
1	Red
2	Green/ SOG
3	Blue
4	Sense (GND)
5	NC
6	Red GND
7	Green GND
8	Blue GND
9	DDC +5V
10	Cable detect (GND)
11	Sense (GND)
12	Bi-directional data
13	H/H+V sync
14	V-sync
15	Data clock

## (2) Input DVI-D connector pin assignment

Pin No.	Description
1	TMDS data2-
2	TMDS data2+
3	TMDS data2/4 shield
4	NC
5	NC
6	DDC clock
7	DDC data
8	NC
9	TMDS data1-
10	TMDS data1+
11	TMDS data1/3 shield
12	NC
13	NC
14	+5V
15	Ground (return for +5V and H/Vsync)
16	Hot plug detect
17	TMDS data0-
18	TMDS data0+
19	TMDS data0/5 shield
20	NC
21	NC
22	TMDS clock shield
23	TMDS clock+
24	TMDS clock-

## Technical Data

### Signal interface

- 15Pins, D-sub male with DDC2B Pin assignments
- 24Pins, DVI-D male with DDC2B Pin assignments

### Sync polarity:

- Hori.sync positive/negative
- Vert.sync positive/negative

### 1.3.7. Controls:

Front side: - DC power switch

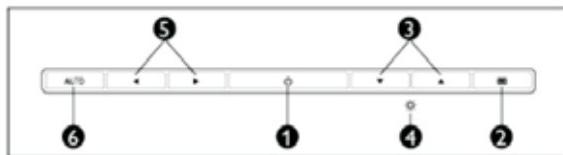
- OSD function key (OK)
- UP
- DOWN
- RIGHT
- LEFT
- AUTO

### Rear:

- D-SUB
- DVI-D
- Power cord socket

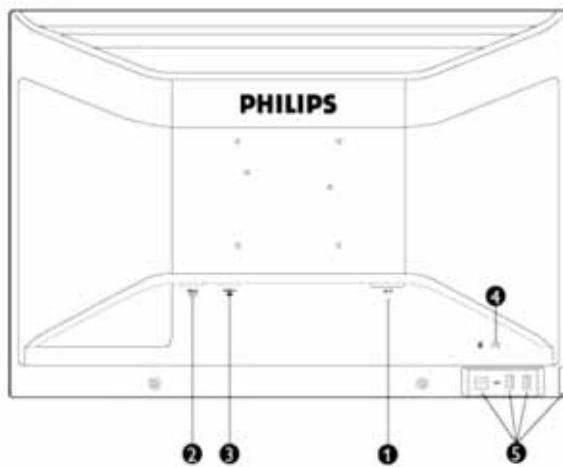
## Installing Your LCD Monitor

### Front View Product Description



- 1 To switch monitor's power On and Off
- 2 To access OSD menu
- 3 To adjust the OSD
- 4 To adjust brightness of the display
- 5 To adjust the OSD
- 6 AUTO Automatically adjust the horizontal position, vertical position, phase and clock setting

### Rear View

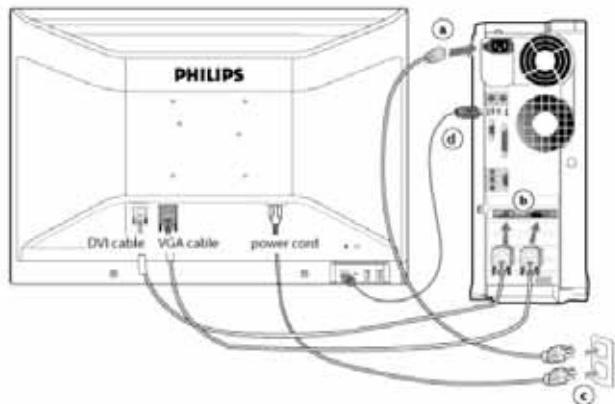
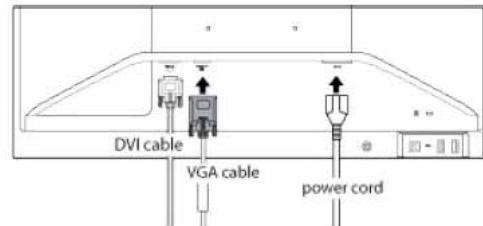


- 1 AC power input
- 2 DVI-I input
- 3 D-SUB Input
- 4 Kensington anti-theft lock
- 5 USB upstream and downstream

### Connect to PC

Connect the power cord and DVI cable to the back of the monitor firmly.

(Philips has pre-connected VGA cable for the first installation.)



Connect the cables to the back of your computer by following these

steps:

- (a) Turn off your computer and unplug its power cord.
- (b) Connect the monitor signal cable to the video connector on the back of your computer
- (c) Plug the power cord on your computer and your monitor into a nearby outlet.
- (d) USB plug
  - (1) Connect USB upstream port on monitor and the USB port on PC with a USB cable.
  - (2) The USB downstream port is now ready for any USB device to plug in
- (e) Turn on your computer and monitor. If the monitor displays an image, installation is complete.

**Note:** The USB plug is a pass through connection whether it can support USB 1.1 or USB 2.0 depends on your PC's specification

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### Description of the On Screen Display

#### *What is the On-Screen Display?*

This is a feature in all Philips LCD monitors. It allows an end user to adjust screen performance of the monitors directly through an on-screen instruction window. The user interface provides user-friendliness and ease-of-use when operating the monitor.

#### *Basic and simple instruction on the control keys.*

When you press the **OK** button on the front control of your monitor, the On-Screen Display (OSD) Main Controls window will pop up and you can then start making adjustments to your monitor's various features. Use the **▼▲** or the **◀▶** keys to make your adjustments



### The OSD Tree

Below is an overall view of the structure of the On-Screen Display. You can use this as a reference when you want to work your way around the different adjustments later on.

*Only available for Europe Model*

Main Menu

Sub Menu

Exit

Brightness & Contrast

Brightness  
Contrast  
Back

Color

Original Color  
9300K  
6500K  
sRGB  
User Define  
Back

Red  
Green  
Blue

Position

Position  
Horizontal  
Vertical  
Back

Input Selection

Analog (D-Sub)  
Digital (DVI-D)  
Back

More Settings

Language  
English  
Español  
Français  
Deutsch  
Italiano  
Русский  
Back

Phase/Clock  
Phase  
Clock  
Back

OSD Setting  
Horizontal  
Vertical  
Back

Reset

No  
Yes

## On Screen Display

*Only available for Nafta Model*

## Main Menu

## Sub Menu

Exit

Brightness &amp; Contrast

Brightness

Contrast

Back

Color

Original Color

9300K

6500K

sRGB

User Define

Back

Red

Green

Blue

Position

Position

Horizontal

Vertical

Back

Input Selection

Analog (D-Sub)

Digital (DVI-D)

Back

More Settings

Language

English

Español

Français

Português

中文

Back

Phase/Clock

Phase

Clock

Back

OSD Setting

Horizontal

Vertical

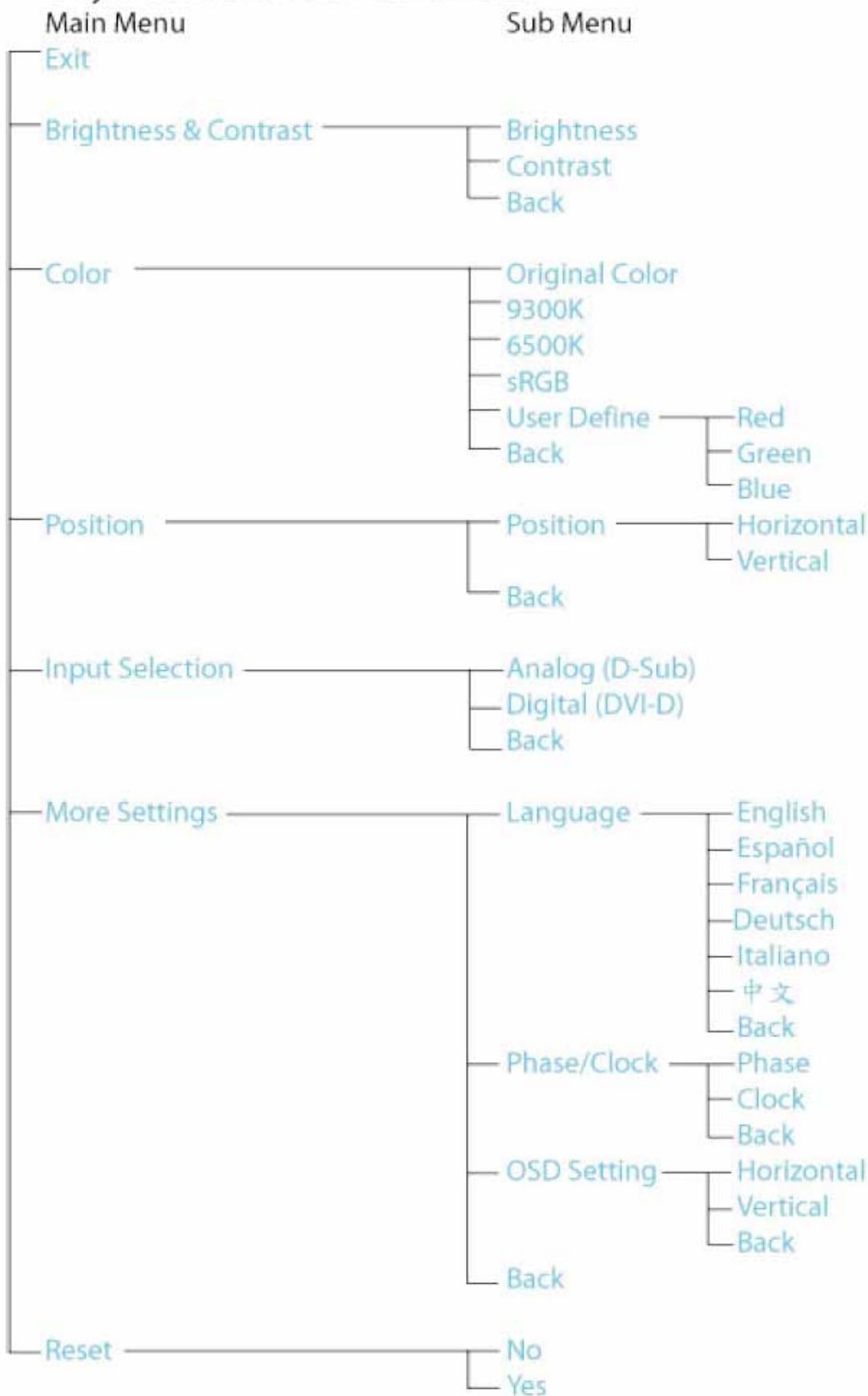
Back

Reset

No

Yes

*Only available for Asia Pacific Model*



# Safety Test Requirements

Go to cover page

All units that are returned for service or repair must pass the original manufacturers safety tests. Safety testing requires both Hipot and Ground Continuity testing.

## HI-POT TEST INSTRUCTION

### 1. Application requirements

- 1.1 All mains operated products must pass the Hi-Pot test as described in this instruction.
- 1.2 This test must be performed again after the covers have been refitted following the repair, inspection or modification of the product.

### 2. Test method

#### 2.1 Connecting conditions

- 2.1.1 The test specified must be applied between the parallel-blade plug of the mainscord and all accessible metal parts of the product.
- 2.1.2 Before carrying out the test, reliable conductive connections must be ensured and thereafter be maintained throughout the test period.
- 2.1.3 The mains switch(es) must be in the "ON" position.

#### 2.2 Test Requirements

All products should be HiPot and Ground Continuity tested as follows:

Condition	HiPot Test for products where the mains input range is Full range(or 220V AC)	HiPot Test for products where the mains input is 110V AC(USA type)	Ground Continuity Test requirement
Test voltage	2820VDC (2000VAC)	1700VDC (1200VAC)	Test current: 25A,AC Test time: 3 seconds(min.) Resistance required: $<=0.09+Rohm$ , R is the resistance of the mains cord.
Test time (min.)	3 seconds	1 second	
Trip current (Tester)	set at 100 uA for Max. limitation; set at 0.1 uA for Min. Limitation	5 mA	
Ramp time (Tester)	set at 2 seconds		

2.2.1 The minimum test duration for Quality Control Inspector must be 1 minute.

2.2.2 The test voltage must be maintained within the specified voltage + 5%.

2.2.3 There must be no breakdown during the test.

2.2.4 The grounding blade or pin of mains plug must be conducted with accessible metal parts.

### 3. Equipments and Connection

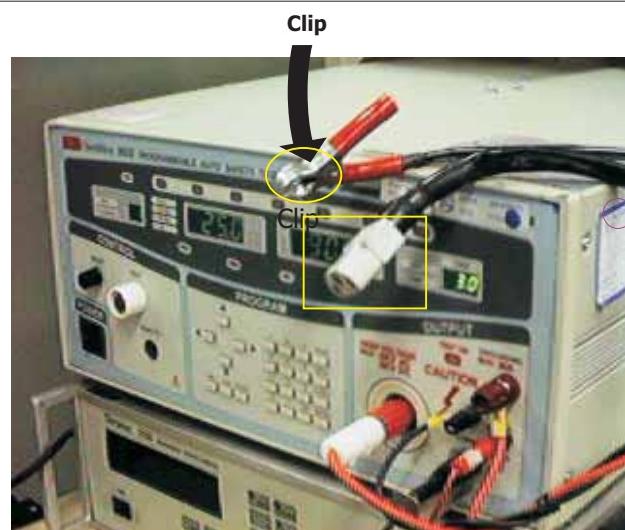
#### 3.1. Equipments

For example :

- ChenHwa 9032 PROGRAMMABLE AUTO SAFETY TESTER
- ChenHwa 510B Digital Grounding Continuity Tester
- ChenHwa 901 (AC Hi-pot test), 902 (AC, DC Hi-pot test) Withstanding Tester

#### 3.2. Connection

- \* Turn on the power switch of monitor before Hipot and Ground Continuity testing.



(ChenHwa 9032 tester)

Video cable



Grounding screw



Power outlet

### 4. Recording

(Rear view of monitor)

Hipot and Ground Continuity testing records have to be kept for a period of 10 years.

## Front View



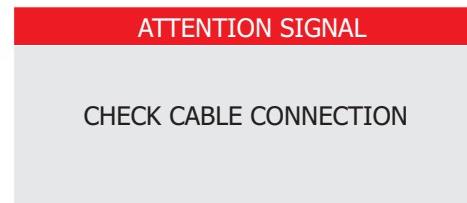
**To Lock/Unlock OSD FUNCTION(User Mode)**  
 The OSD function can be locked by pressing "OK" button for more than 10 seconds, the screen shows following windows for 3 seconds. Everytime when you press "AUTO" or "OK" button, this message appears on the screen automatically.

**Unlock OSD function**

Locked OSD function can be released by pressing "OK" button for more than 10 seconds again

**NO VIDEO INPUT**

This screen appears if there is no video signal input. Please check that the signal is properly connected to the video card of PC and make sure PC is on

**WAIT FOR AUTOMATIC ADJUSTMENT**

This screen appears when you press the "AUTO" buttons at the same time. It will disappear when the monitor is properly adjusted

**Access Aging.. Mode**

Step 1 : Turn off LCD monitor, and disconnect Interface Cable between Monitor and PC.  
 Step 2 : [Push " " & " " buttons at the same time and hold it]+[Press power " " button until comes out " AGING screen" ] => then release all buttons.

Bring up:



After 15 seconds, bring up:



After 15 seconds, bring up:



After 15 seconds, bring up:

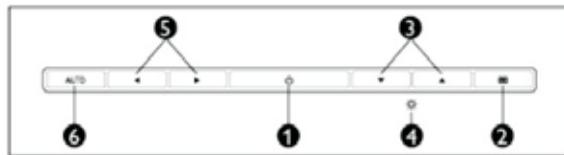


-----  
-----  
repeatedly

Connect Signal cable again=> go back to normal display

 Go to cover page

### Front Control Panel



### Access Factory Mode

How to get into Factory Mode Menu

Step1:

Turn off monitor.

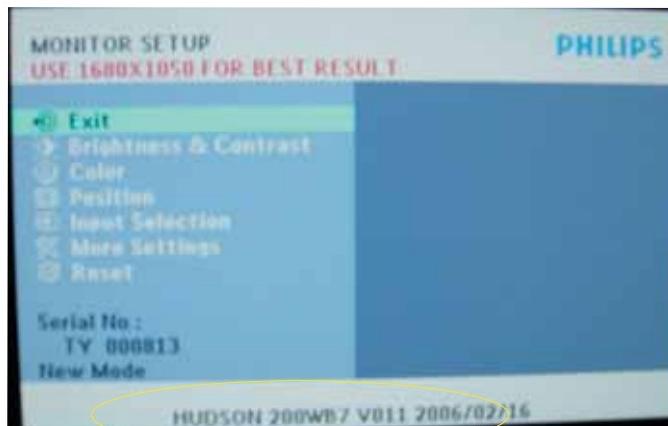
Step2:

[Push "AUTO" & "OK" buttons at the same time and hold it]  
+[Press power " " button until comes out "Windows screen"]

=> then release all buttons

Step3:

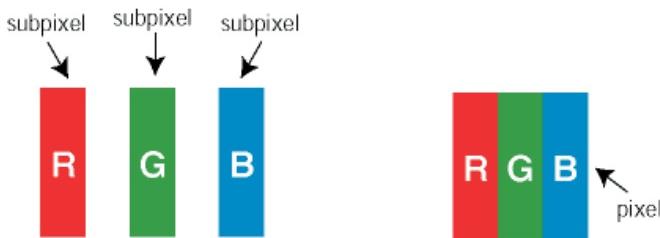
Press OK "OK" button, bring up Factory mode indication as shown in Fig2.



## Philips' Flat Panel Monitors Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing processes and practice stringent quality control. However, pixel or subpixel defects on the TFT LCD panels used in flat panel monitors are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any monitor with an unacceptable number of defects will be repaired or replaced under warranty. This notice explains the different types of pixel defects and defines acceptable defect levels for each type. In order to qualify for repair or replacement under warranty, the number of pixel defects on a TFT LCD panel must exceed these acceptable levels.

For example, no more than 0.0004% of the subpixels on a 15" XGA monitor may be defective. Furthermore, Philips sets even higher quality standards for certain types or combinations of pixel defects that are more noticeable than others. This policy is valid worldwide .



## Pixels and Subpixels

A pixel, or picture element, is composed of three subpixels in the primary colors of red, green and blue. Many pixels together form an image. When all subpixels of a pixel are lit, the three colored subpixels together appear as a single white pixel. When all are dark, the three colored subpixels together appear as a single black pixel. Other combinations of lit and dark subpixels appear as single pixels of other colors.

## Types of Pixel Defects

Pixel and subpixel defects appear on the screen in different ways.

There are two categories of pixel defects and several types of subpixel defects within each category.

**Bright Dot Defects** Bright dot defects appear as pixels or subpixels that are always lit or "on".

These are the types of bright dot defects:



One lit red, green or blue subpixel



Two adjacent lit subpixels:

- Red + Blue = Purple
- Red + Green = Yellow
- Green + Blue = Cyan (Light Blue)



Three adjacent lit subpixels  
(one white pixel)

## Black Dot Defects

Black dot defects appear as pixels or subpixels that are always dark or "off".

These are the types of black dot defects:



One dark subpixel



Two or three adjacent dark subpixels

## Proximity of Pixel Defects

Because pixel and subpixels defects of the same type that are nearby one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects.

## Pixel Defect Tolerances

In order to qualify for repair or replacement due to pixel defects during the warranty period, a TFT LCD panel in a Philips flat panel monitor must have pixel or subpixel defects exceeding the tolerances listed in the following tables.

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	200WP7
1 lit subpixel	3 or fewer
2 adjacent lit subpixels	1 or fewer
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects*	25 mm or more
Total bright dot defects of all types	3 or fewer

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	200WP7
1 dark subpixel	5 or fewer
2 adjacent dark subpixels	2 or fewer
3 adjacent dark subpixels	1 or fewer
Distance between two black dot defects*	15 mm or more
Total black dot defects of all types	5 or fewer

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	200WP7
Total bright or black dot defects of all types	5 or fewer

Note:

\* 1 or 2 adjacent sub pixel defects = 1 dot defect

Your Philips monitor is ISO13406-2 Compliant

# Failure Mode Of Panel

 [Go to cover page](#)

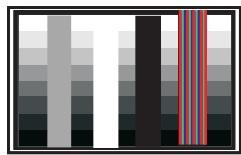
Quick reference for failure mode of LCD panel

this page presents problems that could be made by LCD panel.  
It is not necessary to repair circuit board. Simply follow the mechanical instruction on this manual to eliminate failure by replace LCD panel.

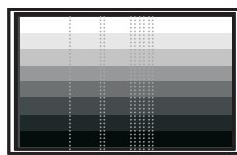
## Failure description

## Phenomenon

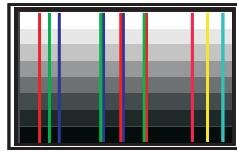
Vertical block defect



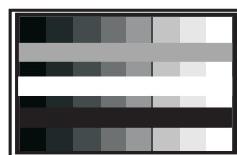
Vertical dim lines



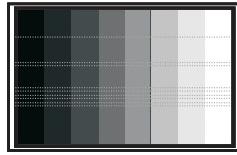
Vertical lines defect  
(Always bright or dark)



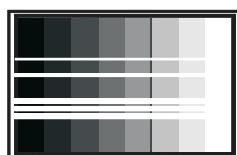
Horizontal block defect



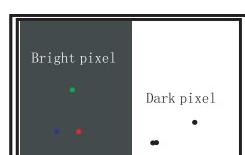
Horizontal dim lines



Horizontal lines defect  
(Always bright or dark)



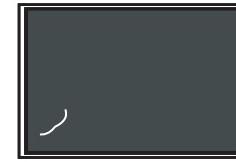
Has bright or dark pixel



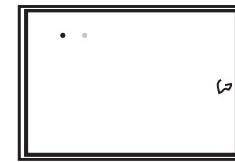
Polarizer has bubbles



Polarizer has bubbles



Foreign material inside  
polarizer. It shows liner or  
dot shape.



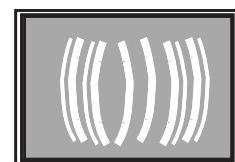
Concentric circle formed



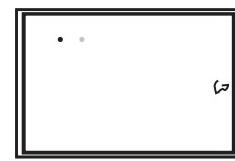
Bottom back light of LCD is  
brighter than normal



Back light un-uniformity



Backlight has foreign material.  
Black or white color, liner or  
circular type

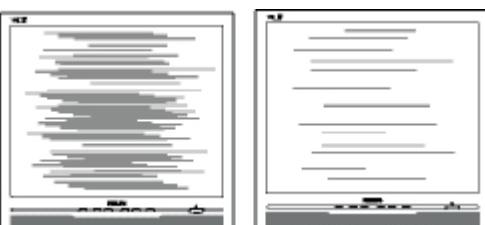


This page deals with problems that can be corrected by a user. If the problem still persists after you have tried these solutions, contact Philips customer service representative.

Common Problems	
Having this problem	Check these items
No Picture (Power LED not lit)	<ul style="list-style-type: none"> <li>Make sure the power cord is plugged into the power outlet and into the back of the monitor.</li> <li>First, ensure that the power button on the front of the monitor is in the OFF position, then press it to the ON position.</li> </ul>
No Picture (Power LED is amber or yellow)	<ul style="list-style-type: none"> <li>Make sure the computer is turned on.</li> <li>Make sure the signal cable is properly connected to your computer.</li> <li>Check to see if the monitor cable has bent pins.</li> <li>The Energy Saving feature may be activated</li> </ul>
Screen says 	<ul style="list-style-type: none"> <li>Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Set-Up Guide).</li> <li>Check to see if the monitor cable has bent pins.</li> <li>Make sure the computer is turned on.</li> </ul>
AUTO button not working properly	<ul style="list-style-type: none"> <li>The Auto Function is designed for use on standard Macintosh or IBM-compatible PCs running Microsoft Windows.</li> <li>It may not work properly if using nonstandard PC or video card.</li> </ul>
Imaging Problems	
Display position is incorrect	<ul style="list-style-type: none"> <li>Press the Auto button.</li> <li>Adjust the image position using the Phase/Clock of More Settings in OSD Main Controls.</li> </ul>
Image vibrates on the screen	Check that the signal cable is properly connected to the graphics board or PC

Troubleshooting

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<p>Vertical flicker appears</p> 	<ul style="list-style-type: none"> <li>• Press the Auto button.</li> <li>• Eliminate the vertical bars using the Phase/Clock of More Settings in OSD Main Controls.</li> </ul>
<p>Horizontal flicker appears</p> 	<ul style="list-style-type: none"> <li>• Press the Auto button.</li> <li>• Eliminate the vertical bars using the Phase/Clock of More Settings in OSD Main Controls.</li> </ul>
<p>The screen is too bright or too dark</p>	<ul style="list-style-type: none"> <li>• Adjust the contrast and brightness on Monitor Setup. (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer).</li> </ul>
<p>An after-image appears</p>	<ul style="list-style-type: none"> <li>• If an image remains on the screen for an extended period of time, it may be imprinted in the screen and leave an after-image. This usually disappears after a few hours</li> </ul>
<p>An after-image remains after the power has been turned off.</p>	<ul style="list-style-type: none"> <li>• This is characteristic of liquid crystal and is not caused by a malfunction or deterioration of the liquid crystal. The after-image will disappear after a peroid of time.</li> </ul>
<p>Green, red, blue, dark, and white dots remains</p>	<p>The remaining dots are normal characteristic of the liquid crystal used in today's technology</p>
<p>For further assistance, refer to the <a href="#">Consumer Information Centers</a> list and contact Philips customer service representative</p>	

# Mechanical Instructions

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1.Back view as Fig.1



Fig.1

2.remove the base

- Step 1: Place the monitor face down on a smooth surface as Fig 2.  
Be carefully to prevent the scratch and injury during the uninstallation.



Fig.2

Step 2: Unfasten one screw on the base stand as Fig 3.



Fig.3

Step 3: Firmly insert the base removal tool into four-pronged clicks as Fig 4

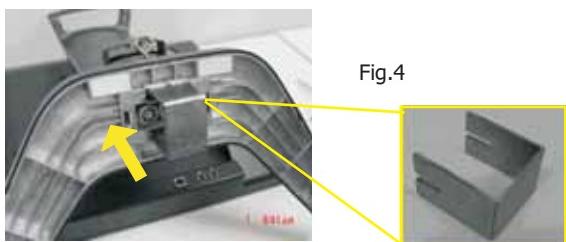


Fig.4

Step 4: Pull out the foot from base as Fig 5 Fig.6.

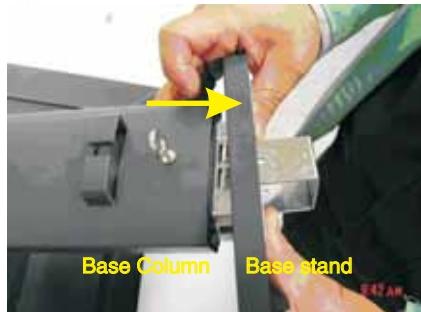


Fig.5



Fig.6

3. Remove cable base as Fig7 and Fig.8



Unscrew the screws



Fig.8

4.Remove back cover as Fig.9 and Fig.10



Fig.9

Unscrew the 2 screws and open the clicks on the sides

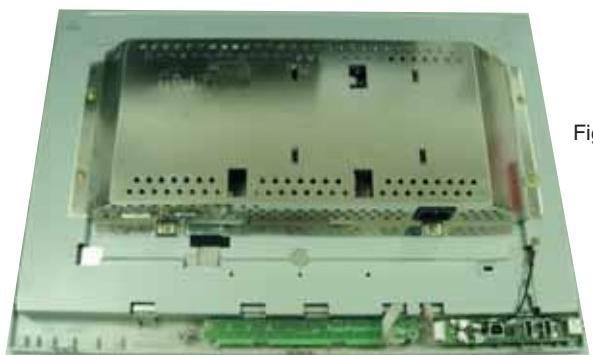


Fig.10

5.Remove the shielding

-Unscrew the screws and then pull down the shielding as Fig.11 Fig.12

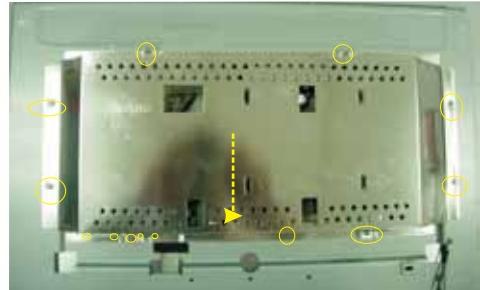


Fig.12

Mechanical Instructions

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Fig.11

6. Remove the power board and scaler board  
-unscrew the screws and disconnect the connectors as Fig.13, Fig.14



Fig.13

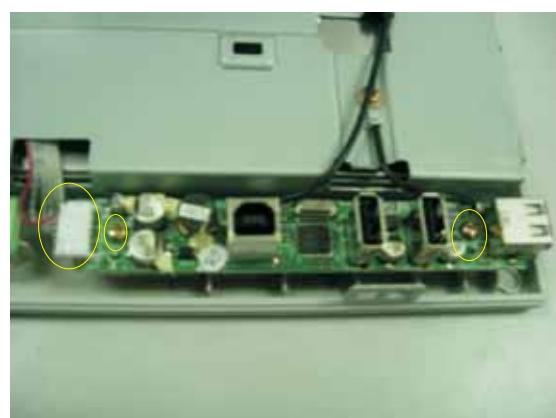


Fig.15

8. Remove the control board  
-unscrew the screws and disconnect the connector as Fig.16

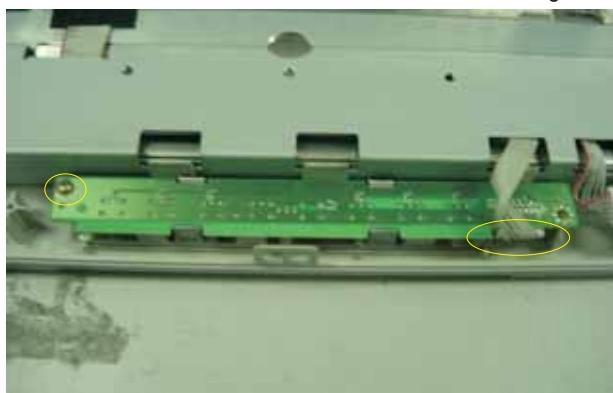


Fig.16



Fig.14

7. Remove the USB board  
-Disconnect the connector and unscrew the screws as shown in Fig.15



To access factory mode

1. Turn off monitor(do not turn off PC)
2. Press AUTO , OK and the power simultaneously on the front control panel, then press OK wait till the OSD menu come on the screen of monitor.

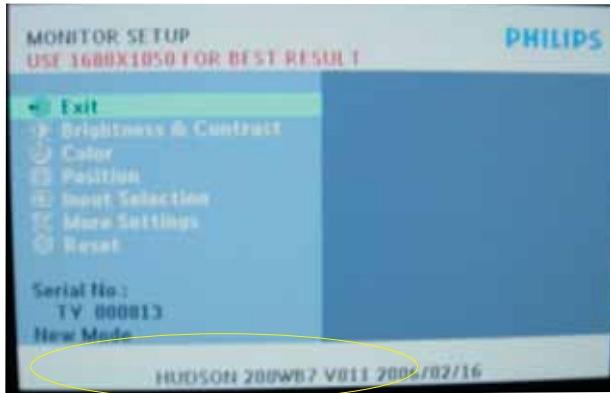


Fig.1

- 3.If OSD menu disappears on the screen of monitor. press OK again(anytime), then the OSD menu comes on the screen again.
4. Use **▲▼** to select OSD menu.
5. Use **OK** to access/confirm the selection.

Move the cursor to yellow area (see red circle on Fig.1) press OK button to access to factory mode.(see Fig.2)



Fig.2

PC mode WHITE-D adjustment (B)

- 1 Apply 1280x1024/60Hz mode with 64 gray level pattern as Fig
3. Set main controls brightness control at 100% and contrast to 50% on User mode. Set color setting at original panel color on User mode. Move cursor to "Auto-SUB" item on factory mode, press "OK" key to activate this function.



Fig.3

2. Apply a 1280x1024/60Hz signal with white pattern. Set brightness control at 100% and contrast control at 50%. Adjust the R.G.B gain to reach special color temperature on center of screen.

- 2.1 Aim the probe CA-A30 at the center of screen as Fig. 4
- 2.2 Remove the lens protective cover of probe CA-A30.
- 2.3 Set Measuring/viewing selector to Measuring position for reset analyzer. (Zero calibration) as Fig. 5
- 2.4 Turn on the colour analyzer (CA-110).
- 2.5 Press O-CAL button to start reset analyzer. See Fig. 6



Fig. 5

Fig.4



Fig.6

2.6 Switch light probe to Viewing position.

2.7 Move the Lens barrel forward or backward to get clear image as shown in Fig. 7

2.8 Switch light probe to Measuring position. It should be able to indicate colour value on the CA-110.



Fig.7

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2.9 Adjust the R, G, B Sub-Gain on factory mode for the screen center, the 1931 CIE chromaticity (X, Y) co-ordinates shall be as follows.

	9300°K	6500°K
x (center)	0.283 ± 0.005	0.313 ± 0.005
y (center)	0.297 ± 0.005	0.329 ± 0.005

Use Minolta CA-110 for colour coordinates and luminance check.

Luminance is > 250 Nits in the center of the screen when brightness at 100% and contrast set to 100%.

	sRGB
x(center)	0.313 ± 0.008
y(center)	0.329 ± 0.008
Ynits	220 ± 10

Factory Preset (B):

After finished all the adjustment, set:

OSD Default Setting:

Brightness: 100%

Contrast: 50%

Adjust size: Full screen

Language: English

Colour: 6500K

OSD position: middle of the LCD screen

Input Selection: Default as PC VGA (D-sub)

Signal cable: Connect to the monitor for user (VGA)

## General

### DDC Data Re-programming

In case the DDC data memory IC or main EEPROM which storage all factory settings were replaced due to a defect, the serial numbers have to be re-programmed "Analog DDC IC, & EEPROM".

It is advised to re-soldered DDC IC and main EEPROM from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

### Additional information

Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA). Extended Display Identification Data(EDID) information may be also obtained from VESA.

## System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98 . You have to Install the EDID\_PORT\_Tool under Win2000/XP . As Fig. 1 .



Fig. 1

- A. Copy the "UserPort.sys" to C:\WINNT\system32\drivers(win2000) C:\WINDOWS\system32\drivers(winXP)
- B. Running " io.exe" everytime, Before you start to programming edid data .
3. EDID45.1exe program .
4. DDC 2BI-ISP TOOL:

### Inclusion :

- A. DDC2BI-ISP TOOL(3138 106 10396) x1 (as Fig. 2)
- B. Printer cable x1
- c. (D-Sub) to (D-Sub) cable x2
- D. D-SUB to DVI cable X1

Note: The EDID45.1EXE is a windows-based program, which cannot be run in MS-DOS.



Fig. 2

## Pin Assignment

Input DVI-D connector pin assignment

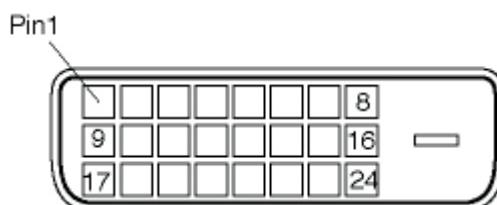


Fig. 3

Pin No.	Description
1	TMDS data2-
2	TMDS data2+
3	TMDS data2/4 shield
4	NC
5	NC
6	DDC clock
7	DDC data
8	NC
9	TMDS data1-
10	TMDS data1+
11	TMDS data1/3 shield
12	NC
13	NC
14	+5V
15	Ground (return for +5V and H/Vsync)
16	Hot plug detect
17	TMDS data0-
18	TMDS data0+
19	TMDS data0/5 shield
20	NC
21	NC
22	TMDS clock shield
23	TMDS clock+
24	TMDS clock-

Fig. 4

Input analog D-SUB connector pin assignment

PIN No.	SIGNAL
1	Red
2	Green/ SOG
3	Blue
4	Sense (GND)
5	NC
6	Red GND
7	Green GND
8	Blue GND
9	DDC +5V
10	Cable detect (GND)
11	Sense (GND)
12	Bi-directional data
13	H/H+V sync
14	V-sync
15	Data clock

Fig.5

## DDC Instructions

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### Configuration and procedure

There are 3 chips contained OSD string, serial number..etc on the circuit board, main EEPROM which storage all factory settings,OSD string. DDC IC which storage 128byte EDID data(serial number ..etc.). Following descriptions are the connection and procedure for Analog /Digital and main EEPROM can be re-programmed along with Analog/Digital IC by enable factory memory data write function on the DDC program (EDID45.EXE).

#### Initialize alignment box

In order to avoid that monitor entering power saving mode due to sync will cut off by alignment box, it is necessary to initialize alignment box before running programming software (EDID45.EXE). Following steps show you the procedures and connection.

Step 1: Supply 8-12V DC power source to the Alignment box by plugging a DC power cord or using batteries.

Step 2: Connecting printer cable and D-Sub cable of monitor as Fig. 5

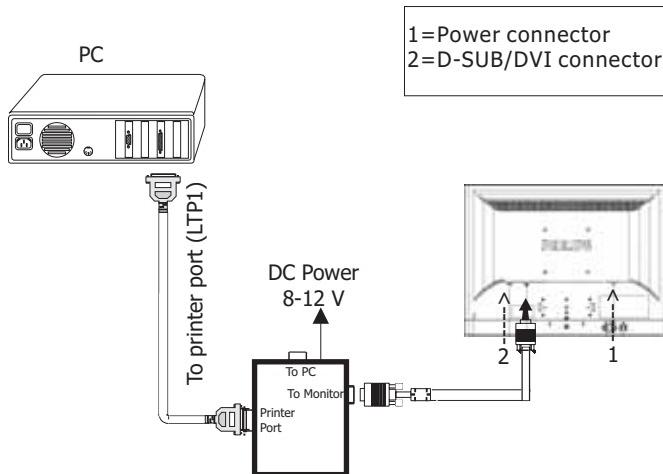


Fig. 5

Step 3: Installation of EDID45.EXE

Method 1: Start on DDC program

Start Microsoft Windows.

1. The Program "EDID45.EXE" in service manual cd-rom be copied to C:\ .
2. Click **Start**, choose Run at start menu of Windows as shown In Fig. 6.

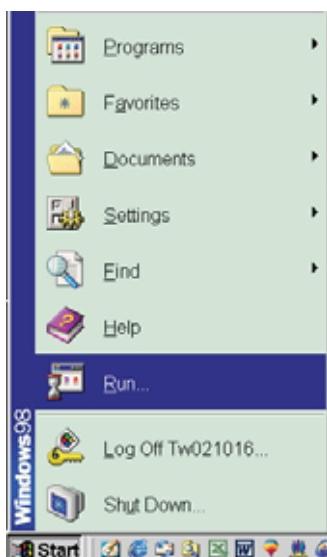


Fig. 6

3. At the submenu, type the letter of your computer's hard disk drive followed by :EDID45 (for example, C:\EDID45, as shown in Fig. 7).

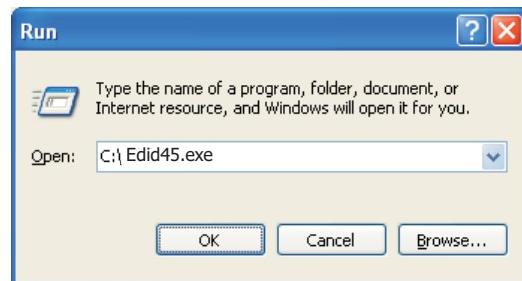


Fig. 7

4. Click OK button. The main menu appears (as shown in Fig. 8). This is for initialize alignment box.

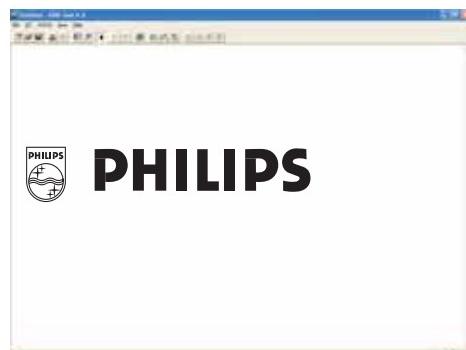


Fig. 8

Note 1: If the connection is improper, you will see the following error message (as shown in Fig. 9) before entering the main menu. Meanwhile, the (read EDID) function will be disable. At this time, please make sure all cables are connected correctly and



Fig. 9

Note 2: During the loading, EDID45 will verify the EDID data which just loaded from monitor before proceed any further function, once the data structure of EDID can not be recognized, the following error message will appear on the screen as below. Please confirm following steps to avoid this message.

1. The data structure of EDID was incorrect.
2. DDC IC that you are trying to load data is empty.
3. Wrong communication channel has set at configuration setup



Fig. 10

## Re-programming Analog DDC IC

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 11

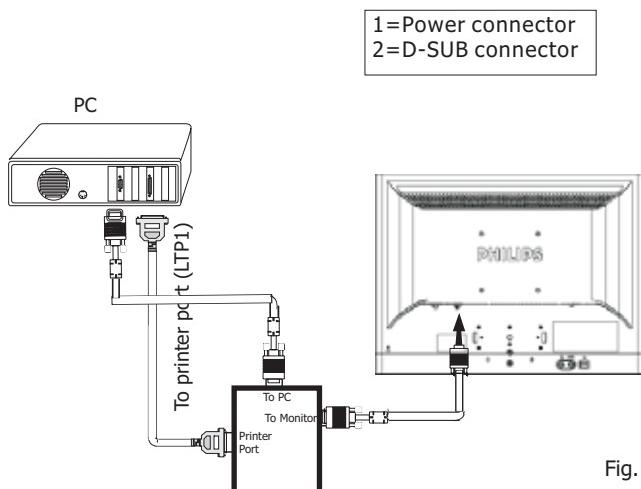


Fig. 11

Step 2: Read DDC data from monitor

- Click icon as shown in Fig. 11 from the tool bar to bring up the Channels "Configuration Setup" windows as shown in Fig. 12.



Fig. 12

- Select the DDC2Bi as the communication channel.  
As shown in Fig. 13.



Fig. 13

- Click OK button to confirm your selection.

- Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 14.

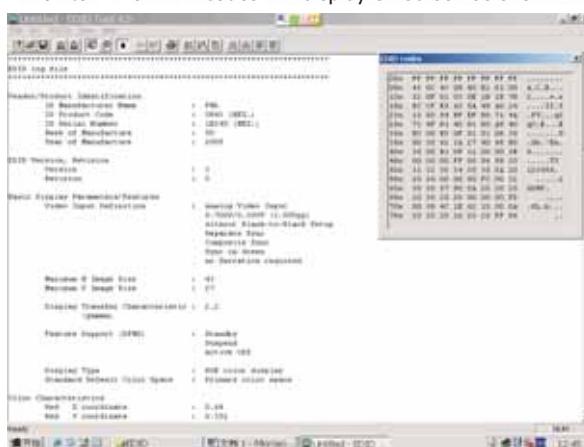


Fig. 14

Step 3: Modify DDC data (verify EDID version, week, year)

- Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 15 .  
EDID45 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

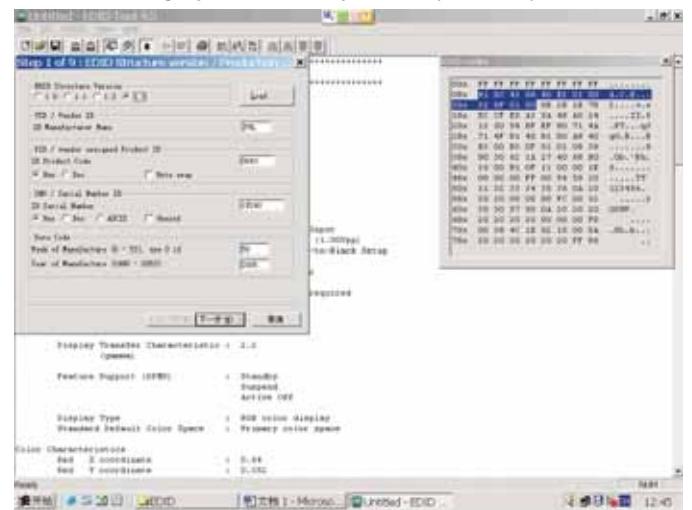


Fig. 15

Step 4: Modify DDC data (Monitor Serial No.)

- Click Next to step7, bring up Fig. 16.  
- Serial number can be filled up or be changed at this moment.  
- Click Finish to exit the Step window.

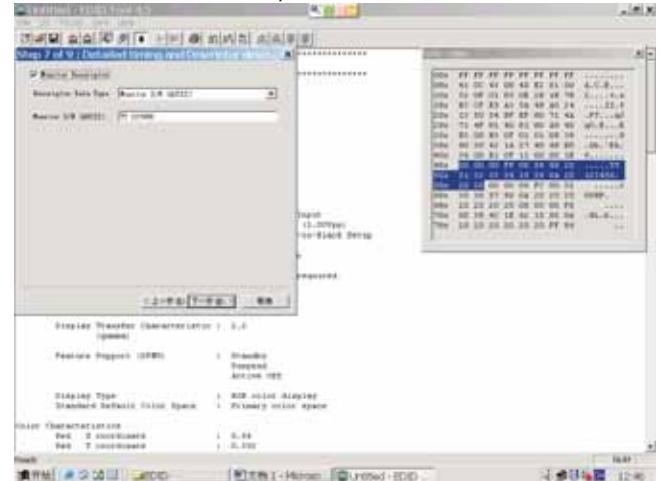


Fig. 16

Step 5: Write DDC data

- Configuration should be as Fig. 17. And press OK.



Fig. 17

## DDC Instructions

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### 2. Access Factory Mode

- Turn off monitor.
- [Push AUTO " **AUTO** " & OK " **OK** " buttons at the same time and hold it ] + [Press power " **Power** " button until comes out "Windows screen"] => then release all button

### 3. Click (Write EDID) icon from the tool bar to write DDC data.

#### Step 6: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click  (Save) icon (or click "file"-> "save as") from the tool bar And give a file name as shown in Fig. 18.  
The file type is EDID45 file (\*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table are completely correct, it can be saved as .ddc file to re-load it into DDC IC for DDC Data application.

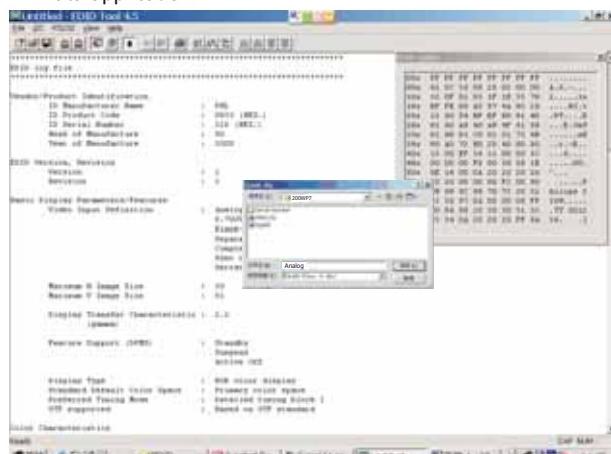


Fig.18

2. Click Save.

#### Step 7: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 19.



Fig. 19

#### Step 8: Modify serial number in OSD

- 1. Unzip the serial number.zip to your computer, then open the folder as shown in Fig.20.
- 2. If use Win98 OS, you can execute SN.exe directly.  
If use Win2000 or XP OS, first, you must execute install.bat, then execute SN.exe
- 3. Set I2C bus (press the left-top button of operating window) as shown in Fig.21, then press " SET" button.
- 4. Set Block2 as shown in Fig.22
- 5. key in new serial number, then press " Write" button as shown in Fig.22 , Click " WRITE" button.
- 6. It will appear " Serial Number Write OK" , Click " Enter" to finish it.

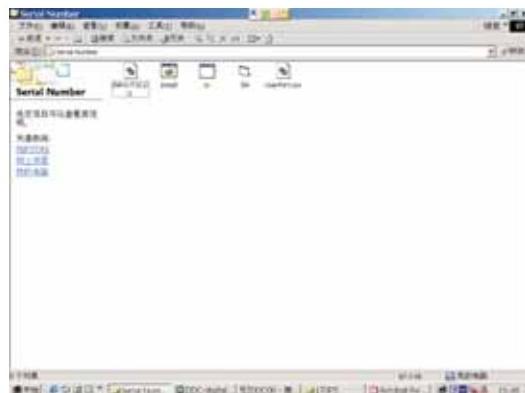


Fig.20

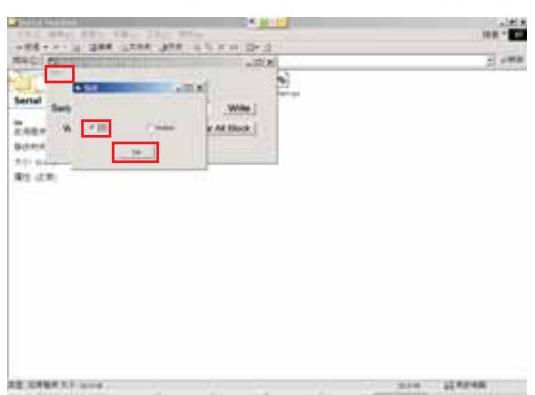


Fig.21

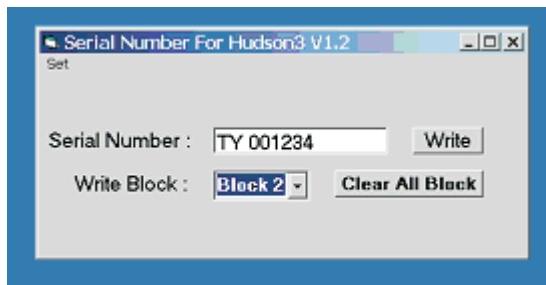


Fig.22

#### Step9:

- 1. Disconnect the monitor power cord and connect it again.
- 2. Press the OK button to bring up the OSD main manu.
- 3. Re-confirm the serial Number is updated as shown in Fig.23.

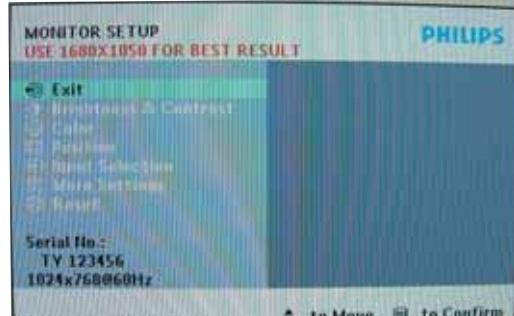


Fig.23

## Re-programming Digital DDC IC

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 24

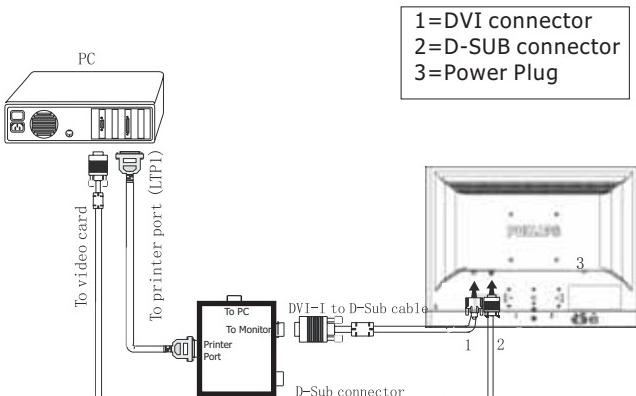


Fig.24

Step 2: Read DDC data from monitor

1. Click icon as shown in Fig. 25 from the tool bar to bring up the Channels "Configuration Setup" windows as shown in Fig. 26.



Fig. 25

2. Select the DDC2Bi as the communication channel.  
As shown in Fig. 26.



Fig. 26

3. Click OK button to confirm your selection.

4. Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 27.

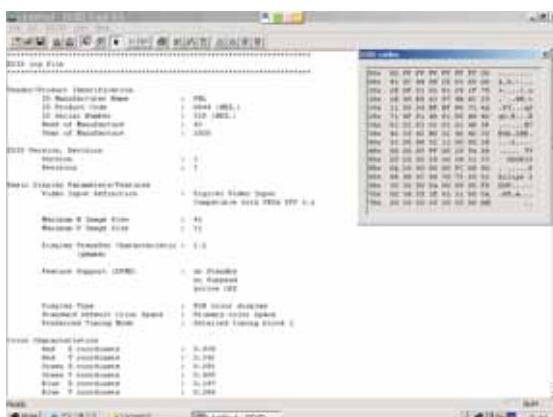


Fig. 27

Step 3: Modify DDC data (verify EDID version, week, year)

1. Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 28 .  
EDID45 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

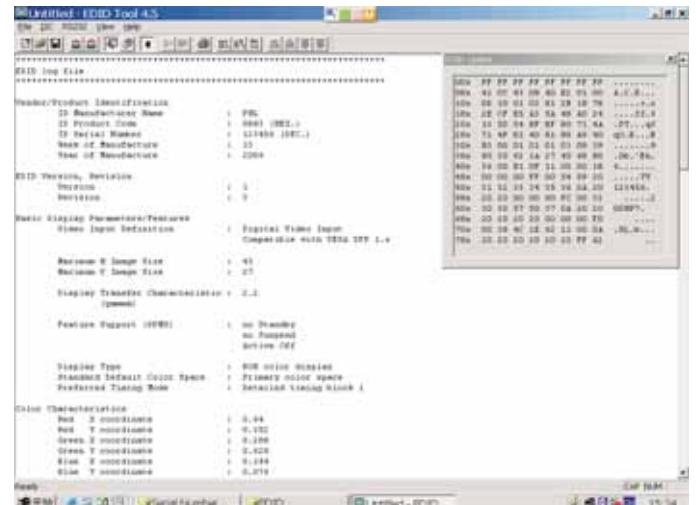


Fig. 28

Step 4: Modify DDC data (Monitor Serial No.)

1. Click Next , bring up Fig. 29. Then select Digital Signal as below

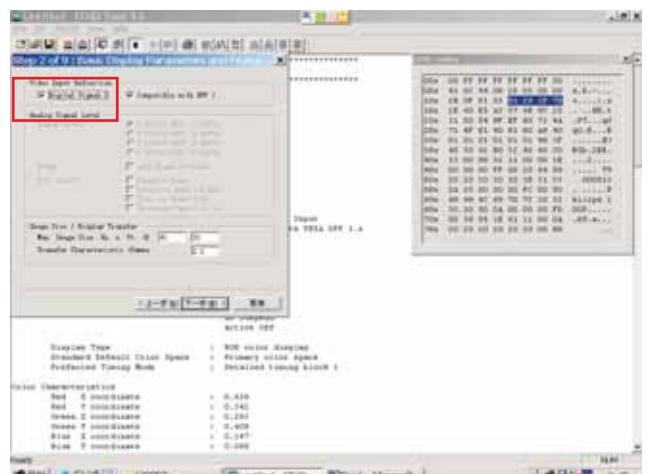


Fig. 29

2. Click Next to step7, bring up Fig. 30.

- Serial number can be filled up or be changed at this moment.
- Click Finish to exit the Step window.

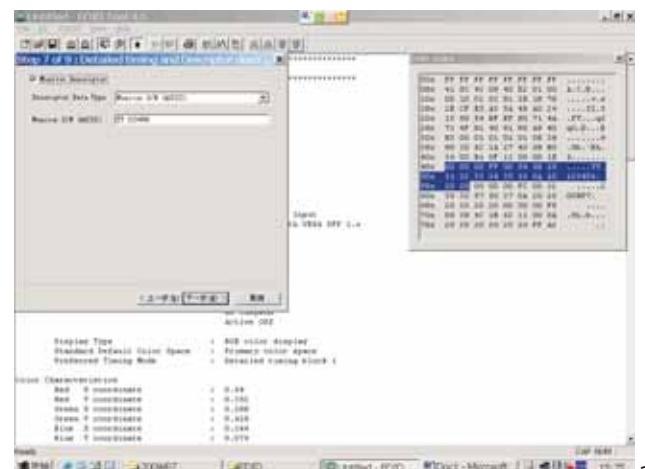


Fig. 30

## Step 5: Write DDC data

1. Configuration should be as Fig. 31. And press OK.

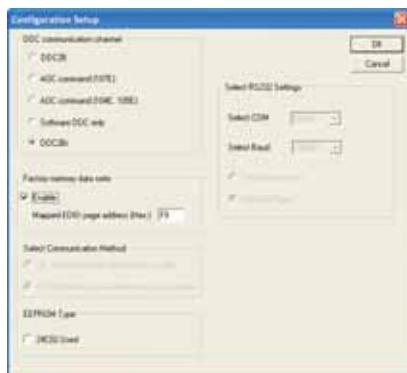


Fig. 31

## 2. Access Factory Mode

- Turn off monitor.
  - [Push AUTO "  " & OK "  " buttons at the same time and hold it ] + [Press power "  " button until it comes out "Windows screen"] => then release all buttons

3. Click  (Write EDID) icon from the tool bar to write DDC data.

#### Step 6: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click  (Save) icon (or click "file"-> "save as") from the tool bar And give a file name as shown in Fig. 32.  
The file type is EDID46 file (\*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table are completely correct, it can be saved as .ddc file to re-load it into DDC IC for DDC Data application.

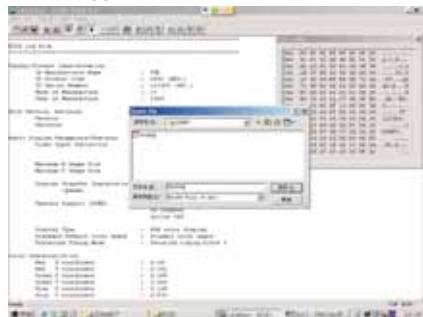


FIG. 54

## 2. Click Save.

## Step 7: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 33.

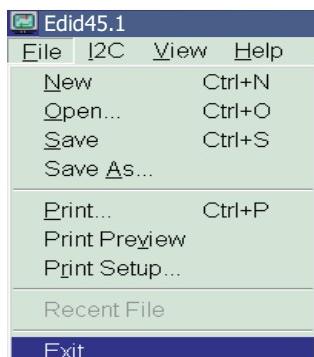
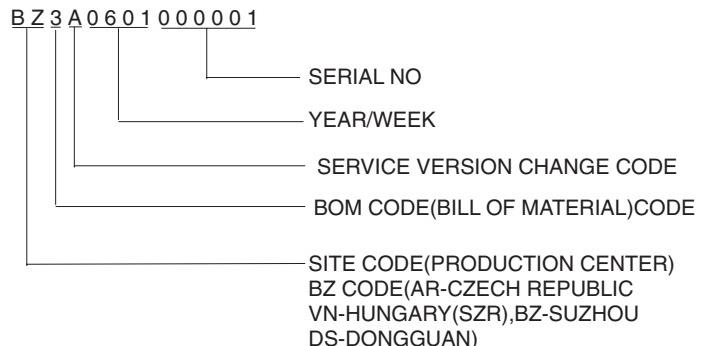


Fig. 33

BOM Code	
Panel Supplier	CODE
AUO	1
CPT	2
LPL(LG)	3
QDI	4
CMO	5



THE DISPLAY DATA CHANNEL (DDC 2B) CONTENT INCLUDING  
(FOR HUDSON 7-200WP7 Analog AUO panel)

\*\*\*\*\*  
EDID log file for 200WP7 Analog  
\*\*\*\*\*

Vendor/Product Identification

ID Manufacturer Name : PHL  
ID Product Code : 0843 (HEX.)  
ID Serial Number : 123456 (DEC.)  
Week of Manufacture : 50  
Year of Manufacture : 2005

EDID Version, Revision

Version : 1  
Revision : 3

Basic Display Parameters/Features

Video Input Definition : Analog Video Input  
0.700V/0.300V (1.00Vpp)  
without Blank-to-Black Setup  
Separate Sync  
Composite Sync  
Sync on Green  
no Serration required

Maximum H Image Size : 43

Maximum V Image Size : 27

Display Transfer Characteristic : 2.2  
(gamma)

Feature Support (DPMS) : Standby  
Suspend  
Active Off

Display Type : RGB color display

Standard Default Color Space : Primary color space

Preferred Timing Mode : Detailed timing block 1

Color Characteristics

Red X coordinate : 0.64  
Red Y coordinate : 0.352  
Green X coordinate : 0.288  
Green Y coordinate : 0.628  
Blue X coordinate : 0.144  
Blue Y coordinate : 0.076  
White X coordinate : 0.313  
White Y coordinate : 0.329

Established Timings

Established Timings I :  
720 x 400 @70Hz (IBM,VGA)  
640 x 480 @60Hz (IBM,VGA)  
640 x 480 @67Hz (Apple,Mac II)  
640 x 480 @72Hz (VESA)  
640 x 480 @75Hz (VESA)  
800 x 600 @56Hz (VESA)  
800 x 600 @60Hz (VESA)

Established Timings II :

800 x 600 @72Hz (VESA)  
800 x 600 @75Hz (VESA)  
832 x 624 @75Hz (Apple,Mac II)  
1024 x 768 @60Hz (VESA)  
1024 x 768 @70Hz (VESA)  
1024 x 768 @75Hz (VESA)  
1280 x 1024 @75Hz (VESA)

Manufacturer's timings : 1152 x 870 @75Hz (Apple,Mac II)

Standard Timing Identification #1

Horizontal active pixels : 1152  
Aspect Ratio : 4:3  
Refresh Rate : 70

Standard Timing Identification #2

Horizontal active pixels : 1152  
Aspect Ratio : 4:3  
Refresh Rate : 75

Standard Timing Identification #3

Horizontal active pixels : 1280  
Aspect Ratio : 4:3  
Refresh Rate : 60

Standard Timing Identification #4

Horizontal active pixels : 1280  
Aspect Ratio : 5:4  
Refresh Rate : 60

Standard Timing Identification #5

Horizontal active pixels : 1600  
Aspect Ratio : 4:3  
Refresh Rate : 60

Standard Timing Identification #6

Horizontal active pixels : 1680  
Aspect Ratio : 16:10  
Refresh Rate : 60

Standard Timing Identification #7

Horizontal active pixels : 1680  
Aspect Ratio : 16:10  
Refresh Rate : 75

Detailed Timing #1

Pixel Clock (MHz) : 146  
H Active (pixels) : 1680  
H Blanking (pixels) : 560  
V Active (lines) : 1050  
V Blanking (lines) : 39  
H Sync Offset (F Porch) (pixels): 104  
H Sync Pulse Width (pixels) : 176  
V Sync Offset (F Porch) (lines) : 3  
V Sync Pulse Width (lines) : 6  
H Image Size (mm) : 433  
V Image Size (mm) : 271  
H Border (pixels) : 0  
V Border (lines) : 0  
Flags : Non-interlaced  
: Normal Display, No stereo  
: Digital Separate sync.  
: Positive Vertical Sync.  
: Positive Horizontal Sync.

Monitor Descriptor #2

Serial Number : TY 123456

Monitor Descriptor #3

Monitor Name : Philips 200WP

Monitor Descriptor #4

Monitor Range Limits  
Min. Vt rate Hz : 56  
Max. Vt rate Hz : 76  
Min. Horiz. rate kHz : 30  
Max. Horiz. rate kHz : 98  
Max. Supported Pixel : 210  
No secondary GTF timing formula supported.

Extension Flag : 0

Check sum : 6C (HEX.)

\*\*\*\*\*  
EDID data (128 bytes)

0: 00 1: ff 2: ff 3: ff 4: ff 5: ff 6: ff 7: 00  
8: 41 9: 0c 10: 43 11: 08 12: 40 13: e2 14: 01 15: 00  
16: 32 17: 0f 18: 01 19: 03 20: 1e 21: 2b 22: 1b 23: 78  
24: ee 25: cf 26: e5 27: a3 28: 5a 29: 49 30: a0 31: 24  
32: 13 33: 50 34: 54 35: bf 36: ef 37: 80 38: 71 39: 4a  
40: 71 41: 4f 42: 81 43: 40 44: 81 45: 80 46: a9 47: 40  
48: b3 49: 00 50: a9 51: 4f 52: b3 53: 0f 54: 08 55: 39  
56: 90 57: 30 58: 62 59: 1a 60: 27 61: 40 62: 68 63: b0  
64: 36 65: 00 66: b1 67: 0f 68: 11 69: 00 70: 00 71: 1e  
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 54 79: 59  
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36  
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50  
96: 68 97: 69 98: 6c 99: 69 100: 70 101: 73 102: 20 103: 32  
104: 30 105: 30 106: 57 107: 50 108: 00 109: 00 110: 00 111: fd  
112: 00 113: 38 114: 4c 115: 1e 116: 62 117: 15 118: 00 119: 0a  
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 6c

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THE DISPLAY DATA CHANNEL (DDC 2B) CONTENT INCLUDING  
(FOR HUDSON7-200WP7 Digital QDI panel)

\*\*\*\*\*  
EDID log file for 200WP7 Digital

Vendor/Product Identification

ID Manufacturer Name	:	PHL
ID Product Code	:	0843 (HEX.)
ID Serial Number	:	123456 (DEC.)
Week of Manufacture	:	50
Year of Manufacture	:	2005

EDID Version, Revision

Version	:	1
Revision	:	3

Basic Display Parameters/Features

Video Input Definition	:	Digital Video Input
		Compatible with VESA DFP 1.x
Maximum H Image Size	:	43
Maximum V Image Size	:	27
Display Transfer Characteristic	:	2.2 (gamma)
Feature Support (DPMS)	:	no Standby no Suspend Active Off

Display Type	:	RGB color display
Standard Default Color Space	:	Primary color space
Preferred Timing Mode	:	Detailed timing block 1

Color Characteristics

Red X coordinate	:	0.64
Red Y coordinate	:	0.352
Green X coordinate	:	0.288
Green Y coordinate	:	0.628
Blue X coordinate	:	0.144
Blue Y coordinate	:	0.076
White X coordinate	:	0.313
White Y coordinate	:	0.329

Established Timings

Established Timings I	:	720 x 400 @70Hz (IBM,VGA) 640 x 480 @60Hz (IBM,VGA) 640 x 480 @67Hz (Apple,Mac II) 640 x 480 @72Hz (VESA) 640 x 480 @75Hz (VESA) 800 x 600 @56Hz (VESA) 800 x 600 @60Hz (VESA)
Established Timings II	:	800 x 600 @72Hz (VESA) 800 x 600 @75Hz (VESA) 832 x 624 @75Hz (Apple,Mac II) 1024 x 768 @60Hz (VESA) 1024 x 768 @70Hz (VESA) 1024 x 768 @75Hz (VESA) 1280 x 1024 @75Hz (VESA)

Manufacturer's timings	:	1152 x 870 @75Hz (Apple,Mac II)
------------------------	---	---------------------------------

Standard Timing Identification #1

Horizontal active pixels	:	1152
Aspect Ratio	:	4:3
Refresh Rate	:	70

Standard Timing Identification #2

Horizontal active pixels	:	1152
Aspect Ratio	:	4:3
Refresh Rate	:	75

Standard Timing Identification #3

Horizontal active pixels	:	1280
Aspect Ratio	:	4:3
Refresh Rate	:	60

Standard Timing Identification #4

Horizontal active pixels	:	1280
Aspect Ratio	:	5:4
Refresh Rate	:	60

Standard Timing Identification #5

Horizontal active pixels	:	1600
Aspect Ratio	:	4:3
Refresh Rate	:	60

Standard Timing Identification #6

Horizontal active pixels	:	1680
Aspect Ratio	:	16:10
Refresh Rate	:	60

Detailed Timing #1

Pixel Clock (MHz)	:	146
H Active (pixels)	:	1680
H Blanking (pixels)	:	560
V Active (lines)	:	1050
V Blanking (lines)	:	39

H Sync Offset (F Porch) (pixels)	:	104
H Sync Pulse Width (pixels)	:	176
V Sync Offset (F Porch) (lines)	:	3
V Sync Pulse Width (lines)	:	6

H Image Size (mm)	:	433
V Image Size (mm)	:	271
H Border (pixels)	:	0
V Border (lines)	:	0

Flags	:	Non-interlaced Normal Display, No stereo Digital Separate sync. Positive Vertical Sync. Positive Horizontal Sync.
-------	---	---

Monitor Descriptor #2

Serial Number	:	TY 123456
---------------	---	-----------

Monitor Descriptor #3

Monitor Name	:	Philips 200WP
--------------	---	---------------

Monitor Descriptor #4

Monitor Range Limits	:	Min. Vt rate Hz : 56 Max. Vt rate Hz : 76 Min. Horiz. rate kHz : 30 Max. Horiz. rate kHz : 98 Max. Supported Pixel : 170 No secondary GTF timing formula supported.
----------------------	---	--

Extension Flag	:	0
----------------	---	---

Check sum	:	83 (HEX.)
-----------	---	-----------

\*\*\*\*\*  
EDID data (128 bytes)

0: 00	1: ff	2: ff	3: ff	4: ff	5: ff	6: ff	7: 00
8: 41	9: 0c	10: 43	11: 08	12: 40	13: e2	14: 01	15: 00
16: 32	17: 0f	18: 01	19: 03	20: 81	21: 2b	22: 1b	23: 78
24: 2e	25: cf	26: e5	27: a3	28: 5a	29: 49	30: a0	31: 24
32: 13	33: 50	34: 54	35: bf	36: ef	37: 80	38: 71	39: 4a
40: 71	41: 4f	42: 81	43: 40	44: 81	45: 80	46: a9	47: 40
48: b3	49: 00	50: 01	51: 01	52: 01	53: 01	54: 08	55: 39
56: 90	57: 30	58: 62	59: 1a	60: 27	61: 40	62: 68	63: b0
64: 36	65: 00	66: b1	67: 0f	68: 11	69: 00	70: 00	71: 1e
72: 00	73: 00	74: 00	75: ff	76: 00	77: 20	78: 54	79: 59
80: 20	81: 20	82: 31	83: 32	84: 33	85: 34	86: 35	87: 36
88: 0a	89: 20	90: 00	91: 00	92: 00	93: fc	94: 00	95: 50
96: 68	97: 69	98: 6c	99: 69	100: 70	101: 73	102: 20	103: 32
104: 30	105: 30	106: 57	107: 50	108: 00	109: 00	110: 00	111: fd
112: 00	113: 38	114: 4c	115: 1e	116: 62	117: 11	118: 00	119: 0a
120: 20	121: 20	122: 20	123: 20	124: 20	125: 20	126: 00	127: 83

## Configuration and procedure

"Easywriter" The software is provided by Novatek to upgrade the firmware of CPU.

It is a windows-based program, which cannot be run in MS-DOS.

The tool (3138 106 10396) is for the interface between "Parallel Port of PC" and "15 pin-D-SUB connector of Monitor".

## System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98/2000/XP.
3. ISP Software " Easywrite "
4. ISP TOOL (3138 106 10396) as shown in Fig. 1

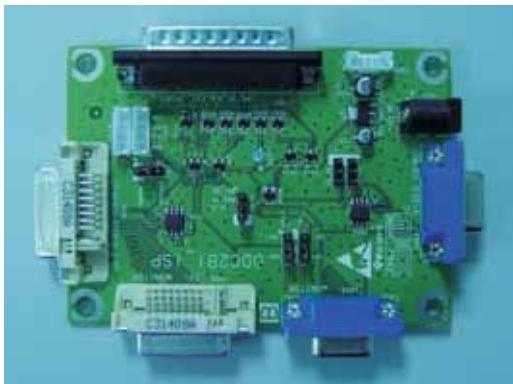
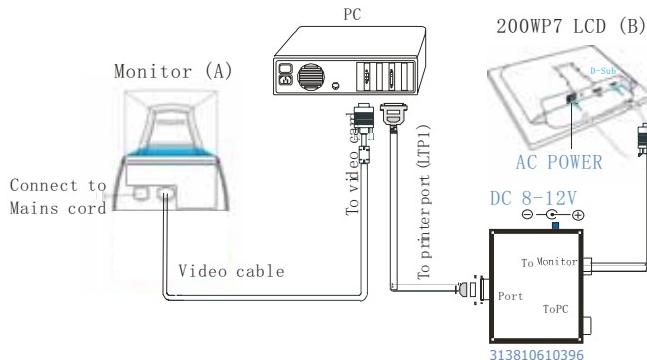


Fig. 1

5. Connect ISP TOOL and Mains cord to Monitor as shown in Fig. 2.



6. Run the Easywriter program

Step 1 : Make a folder in your PC as shown in Fig. 3.

For example : C:\easywrite

Step 2 : Copy ISP Software Easywriter.zip into your folder as shown in Fig.3.

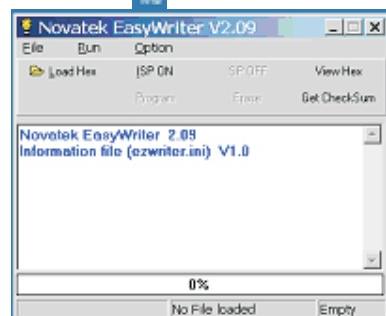
Step 3 : Unzip Easywriter.zip into your folder as shown in Fig. 3.

Step 4 : Double click the EasywriterV2.09.exe icon to run the Application as Fig. 4.



Double click the shortcut on the desktop

Fig. 4



Step 5 :Copy the .hex code to C:\200WP7 as shown in Fig. 5 .



Fig. 5

Update the firmware

1. Press the load hex then select the .hex code as shown in Fig.6

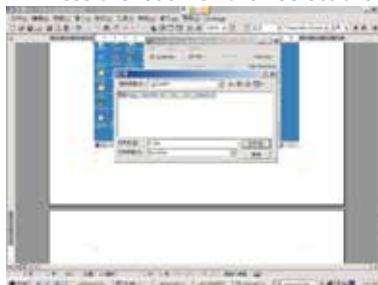


Fig. 6

2. Press the AUTO to run the program, the firmware be updated as shown in Fig7` Fig.8

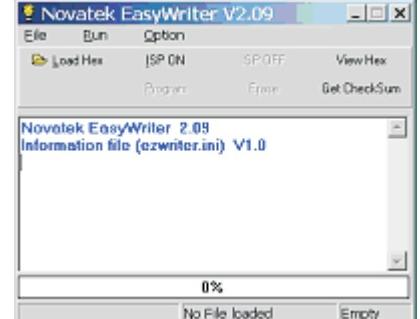
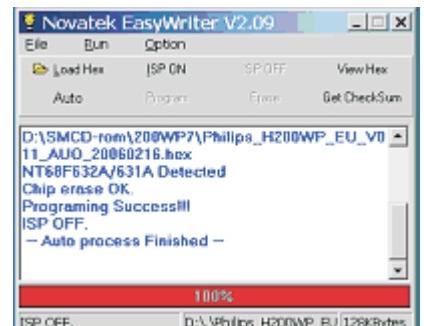


Fig. 7

Fig.8



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Press the file— exit to end program, as shown in Fig.9

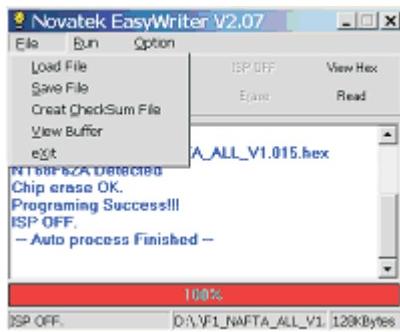
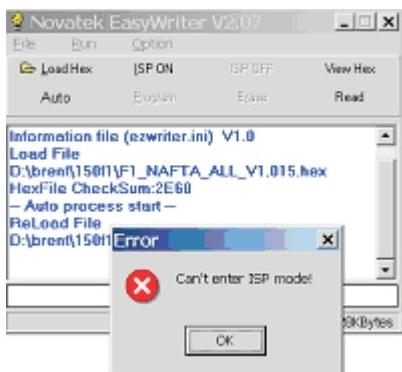
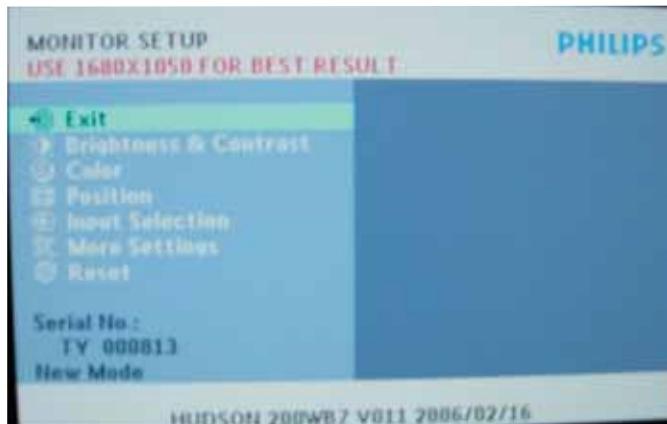


Fig.9

If there is a warning message coming as shown in Fig 10., you have to check the AC power, Video cable, or Novatek MCU.



You can enter factory mode to confirm the CPU version



## 1. General points

- 1.1 During the test and measuring, supply a distortion free AC mains voltage to the apparatus via an isolated transformer with low internal resistance.
- 1.2 All measurements mentioned hereafter are carried out at a Normal mains voltage (90 - 132 VAC for USA version, 195 -264 VAC for EUROPEAN version, or 90 - 264 VAC for the model with full range power supply, unless otherwise stated.)
- 1.3 All voltages are to be measured or applied with respect to ground, unless otherwise stated.  
Note: don't use heat-sink as ground.
- 1.4 The test has to be done on a complete set including LCD panel in a room with temperature of 25 +/- 5 degree C.
- 1.5 All values mentioned in these test instruction are only applicable of a well aligned apparatus, with correct signal.
- 1.6 The letters symbols (B) and (S) placed behind the test instruction denotes  
(B): carried out 100% inspection at assembly line  
(S): carried out test by sampling
- 1.7 The white balance (color temperature), has to be tested in subdued lighted room.
- 1.8 Repetitive power on/ off cycle are allowed. The image can be displayed after 8 sec.
- 1.9 All optical characteristics (including WHITE-D, Brightness, and so on) are determined according to panel specification after warming up approximate 30 minutes that brightness stability is optimal, and follow strictly after panel specification.

## 2. Input signal

### Signal type

- 2.1.1 Analogue Video: 0.7 Vp-p linear, positive polarity  
Sync. : TTL level, separate, positive or negative polarity  
Signal source: pattern generator format as the SPEC.  
Reference generator: QuantumData 802G/ 802BT
- 2.1.2 Digital Video: 600mVp-p TMDS Signal
- 2.1.3 Audio Signal: PC line in
- 2.2 Input signal mode

### (1) Factory Preset Modes (15modes)

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)
1	31.469	IBM VGA 10H	640x350	70.086
2	31.469	IBM VGA 3H	720x400	70.087
3	31.469	IBM VGA 12H	640x480	59.940
4	35.000	MACINTOSH	640x480	67.000
5	37.500	VESA	640x480	75.000
6	37.500	VESA	800x600	56.250
7	37.879	VESA	800x600	60.317
8	46.875	VESA	800x600	75.000

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)
9	48.363	VESA	1024x768	60.004
10	60.023	VESA	1024x768	75.029
11	68.700	MACINTOSH	1152x870	75.000
12	63.981	VESA	1280x1024	60.020
13	79.976	VESA	1280x1024	75.025
14	75.0	VESA	1600x1200	60
15	65.29	-	1680x1050	60.0

Preset Modes (40modes)

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)
1	31.469	IBM VGA 10H	640x350	70.086
2	31.469	IBM VGA 3H	720x400	70.087
3	31.469	IBM VGA 12H	640x480	59.940
4	35.000	MACINTOSH	640x480	67.000
5	37.861	VESA	640x480	72.809
6	37.500	VESA	640x480	75.000
7	43.269	VESA	640x480	85.008
8	35.156	VESA	800x600	56.250
9	37.879	VESA	800x600	60.317
10	48.077	VESA	800x600	72.188
11	46.875	VESA	800x600	75.000
12	53.674	VESA	800x600	85.061
13	49.700	MACINTOSH	832x624	75.000
14	56.4	-	960x720	75
15	44.75	-	960x720	60
16	48.363	VESA	1024x768	60.004
17	56.476	VESA	1024x768	70.069
18	60.023	VESA	1024x768	75.029
19	61.080	IBM XGA-2	1024x768	75.781
20	68.677	VESA	1024x768	84.997
21	47.776	CVT 2.3MA	1280 x768	60

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)
22	60.289	CVT 2.3MA	1280 x768	75
23	54.1	-	1152x864	60
24	63.851	VESA	1152x864	70.012

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25	67.500	VESA	1152x864	75.000
26	68.700	MACINTOSH	1152x870	75.000
27	61.845	SUN WS	1152x900	66.004
28	71.810	SUN WS	1152x900	76.150
29	60.000	VESA	1280x960	60.000
30	75.000	VESA	1280x960	75.000
31	63.981	VESA	1280x1024	60.020
32	71.691	SUN WS	1280x1024	67.189
33	76.000	DOS/V	1280x1024	72.000
34	79.976	VESA	1280x1024	75.025
35	81.130	SUN WS	1280x1024	76.110
36	91.1	VESA	1280x1024	85.0
37	78.36	CVT 2.3MA	1600x1000	75.0 (for D-Sub)
38	75.0	VESA	1600x1200	60.0
39	65.29	VESA	1680*1050	59.883
40	82.306	VESA	1680*1050	74.892
41				
42				

### 3. AC, DC power board

3.1 Setup the AC I/P at 90VAC, and Output **DC 12V loading 1.1A (AU 0.6A)**, the DC output voltage is 12.0 +/-0.6 V DC, Adjusting is no need. and 5V loading **1.0A(AU 2.7A)**, the DC output voltage is 5V+/-0.25VDC. (B)

#### 4. Display Adjustment

##### 4.1 Access to factory mode (IIC) in auto-alignment system

The communication protocol switch to IIC.

##### 4.2 Auto color adjustment (B)

Apply a 1280x1024/60Hz signal with Blackand white levels pattern, set brightness control at 100%, and contrast control at 50%.

Adjust the R. G. B offset, and gain to calibrate the color smoothly and 64-gray level distinguishable.

Check all factory pre-setting modes.

##### 4.3 Adjustment of WHITE-D (B)

Apply a 1280\*1024 / 60Hz signal with white pattern, set brightness control at 100%, and contrast control at 50%.

Adjust the R, G, B Sub-Gain, for the screen

center, the 1931 CIE chromaticity (X, Y) co-ordinates shall be;

	9300°K	6500°K
x (center)	0.283 ± 0.005	0.313 ± 0.005
y (center)	0.297 ± 0.005	0.329 ± 0.005

Use Minolta CA-110 for colour coordinates and luminance check.

Luminance is > 240 Nits in the center of the screen when brightness at 100% and contrast set to 100%.

##### 4.4 Adjustment of sRGB

Apply a 1280\*1024 / 60Hz signal with white pattern, set brightness control at 100%, and contrast control at 50%. Adjust the R, G, B Sub-Gain, for the screen center, the 1931 CIE chromaticity (X, Y) co-ordinates shall be;

	sRGB
x(center)	0.313 ± 0.008
y(center)	0.329 ± 0.008
Ynits	220 ± 10

## 0. Warning

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the unit via a wrist wrap with resistance. Keep components and tools also at the same potential !

## 1. Servicing of SMDs (Surface Mounted Devices)

### 1.1 General cautions on handling and storage

- Oxidation on the terminals of SMDs results in poor soldering.

Do not handle SMDs with bare hands.

- Avoid using storage places that are sensitive to oxidation such as places with sulphur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity. The capacitance or resistance value of the SMDs may be affected by this.

- Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change.

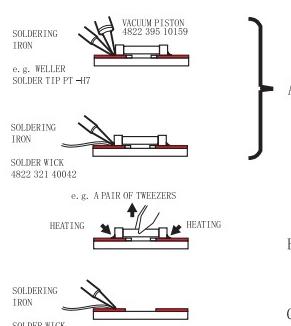
Similarly, do not slide the circuit board across any surface.

### 1.2 Removal of SMDs

- Heat the solder (for 2-3 seconds) at each terminal of the chip. By means of litz wire and a slight horizontal force, small components can be removed with the soldering iron.

They can also be removed with a solder sucker (see Fig. 1 Dismounting).

Fig. 1 Dismounting



While holding the SMD with a pair of tweezers, take it off gently using the soldering iron's heat applied to each terminal (see Fig. 1 B).

- Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 1C).

### 1.3 Caution on removal

- When handling the soldering iron, use suitable pressure and be careful.
- When removing the chip, do not use undue force with the pair of tweezers.
- The soldering iron to be used (approx. 30 W) should

preferably be equipped with a thermal control (soldering temperature: 225 to 250 C).

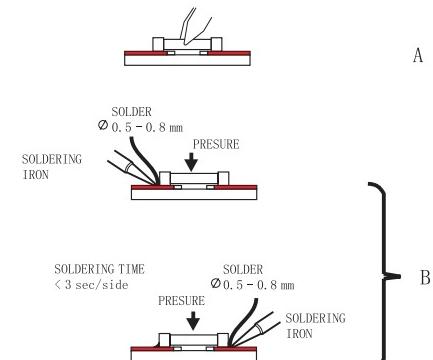
- The chip, once removed, must never be reused.

## 1.4 Attachment of SMDs

- Locate the SMD on the solder lands by means of tweezers and solder the component on one side. Ensure that the component is positioned correctly on the solder lands (see Fig. 2A).
- Next complete the soldering of the terminals of the component (see Fig. 2B).

Fig. 2 MOUNTING

e.g. A PAIR OF TWEEZERS

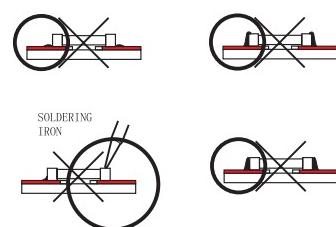


## 2. Caution when attaching SMDs

- When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering should be done as quickly as possible, care must be taken to avoid damage to the terminals of the SMDs themselves.
- Keep the SMD's body in contact with the printed board when soldering.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 C).
- Soldering should not be done outside the solder land.
- Soldering flux (of rosin) may be used, but should not be acidic.
- After soldering, let the SMD cool down gradually at room temperature.
- The quantity of solder must be proportional to the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 3).



Fig. 3 Examples



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### 3. Lead-free product identification

You can identify lead-free product by Philips-lead-free logo on PCB.



### 4. Lead-free product repair instruction

4.1 Use only lead-free Solder Alloy 0622 149 00106(1.2mm SAC305) or 0622 149 00108(1.0mm SAC305).

Remark: For lead free soldering material, please visit [www.alphametals.com](http://www.alphametals.com) website for details. This is recommended by Philips.

4.2 Use only adequate solder tools applicable for lead-free soldering-tin. The solder tool must be able to reach at least a solder-temperature of 400°C, to stabilize the adjusted temperature at the solder-tip and to exchange solder-tips for different applications.

Small Passives/Actives to be removed with thermal tweezers

Automated system for IC and BGA repair (Microscope, Camera, Beam split optics, Computer, Programmer, Heat controllers, Vacuum system, Laser pointer)

Solder Hand-Tool (Adjustable in temperature height, Temperature shall be held constant, Flexible tips)

4.3 Adjust your solder tool so that a temperature around 360°C-380°C is reached and stabilized at the solder joint.

Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed.

Corrosion of Tool-Spikes can be avoided when using SAC305 and a temperature of less than 400°C.

4.4 Mix of lead-free solder-tin/parts with leaded soldering-tin/parts is possible but not recommended. If not to avoid clean carefully the solder-joint from old tin and re-solder with new tin.

4.5 Use only original spare-parts listed in the Service-Manuals. Standard-material (consumables) can also be purchased at external companies.

4.6 Special information for lead-free BGA-ICs: this ICs will be delivered in so-called dry-packaging to protect the IC against moisture and with lead-free logo on it. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets "wet" inside and during the heating time the structure of the IC will be destroyed due to high (steam-)pressure. If the packaging was opened before usage the IC has to be heated up for some hours (around 90°C) for drying (Take attention for ESD-protection!)

### 5. Rework on BGA (Ball Grid Array) ICs

#### General

Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

#### Device Removal

As is the case with any component that, it is essential when removing an (LF)BGA, the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature. A uniform temperature reduces the chance of warping the PWB.

To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

#### Area Preparation

When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA.

Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent. After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA

Note: Do not apply solder paste, as this has shown to result in problems during re-soldering.

#### Device Replacement

The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers.

To reflow the solder, apply a temperature profile according to the IC data sheet. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

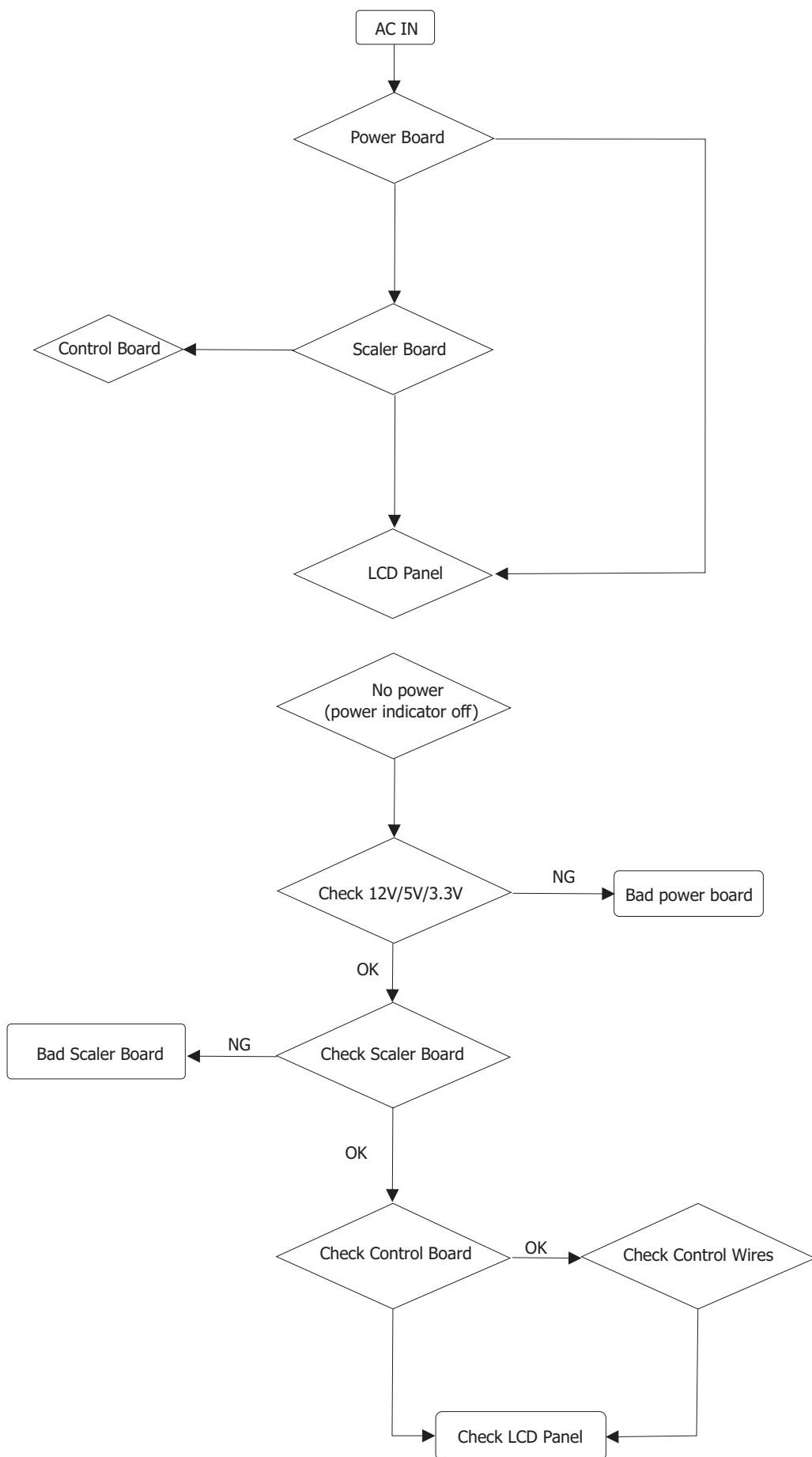
#### More Information

For more information on how to handle BGA devices, visit this URL: <http://www.atyourservice.ce.philips.com> (needs subscription). After login, select "Magazine", then go to "Workshop Information". Here you will find information on how to deal with BGA-ICs.

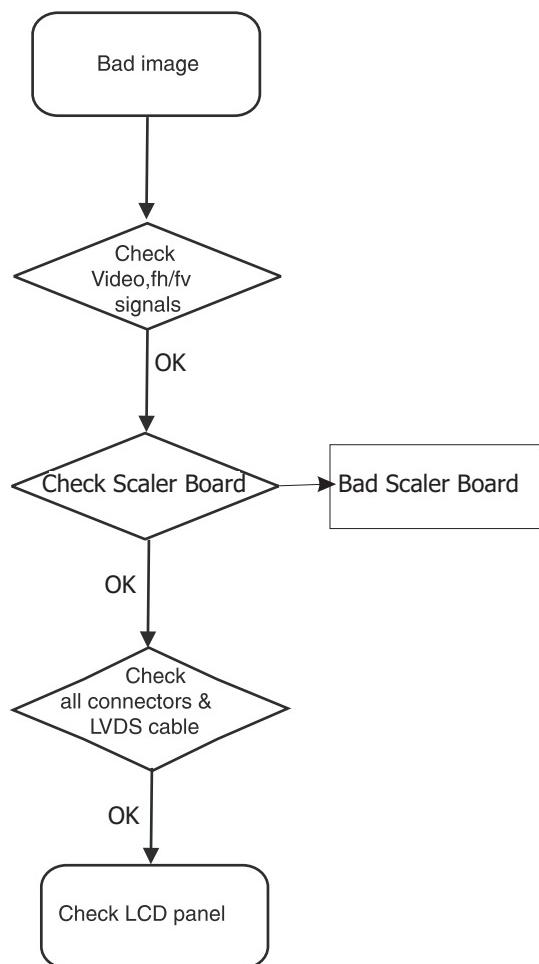
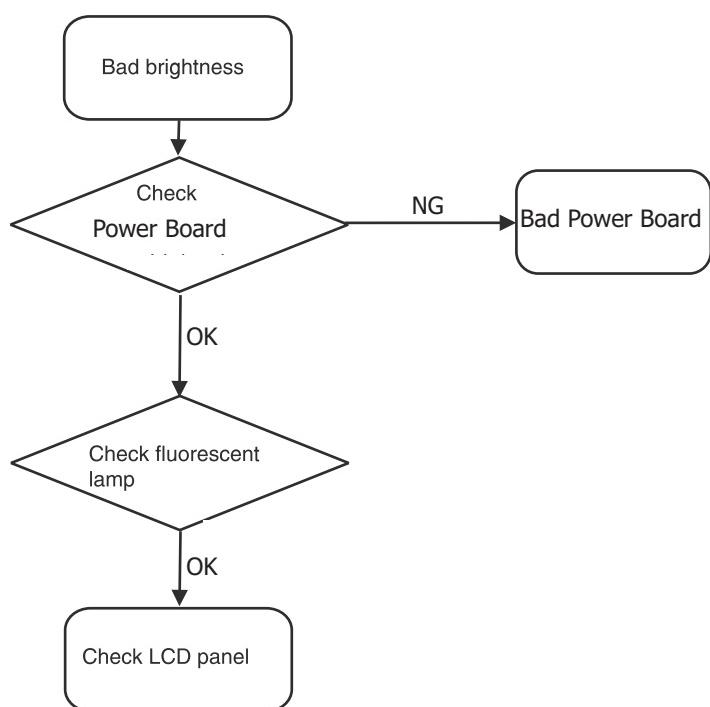
# Repair Flow Chart

200WP7 LCD 35

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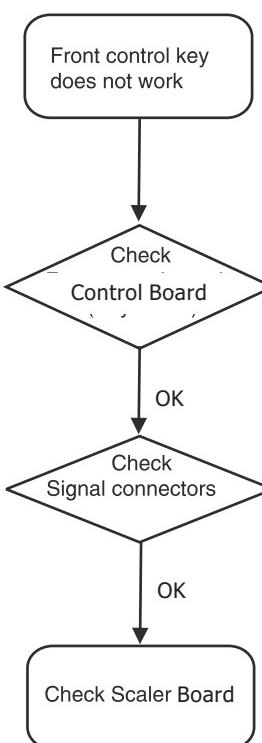
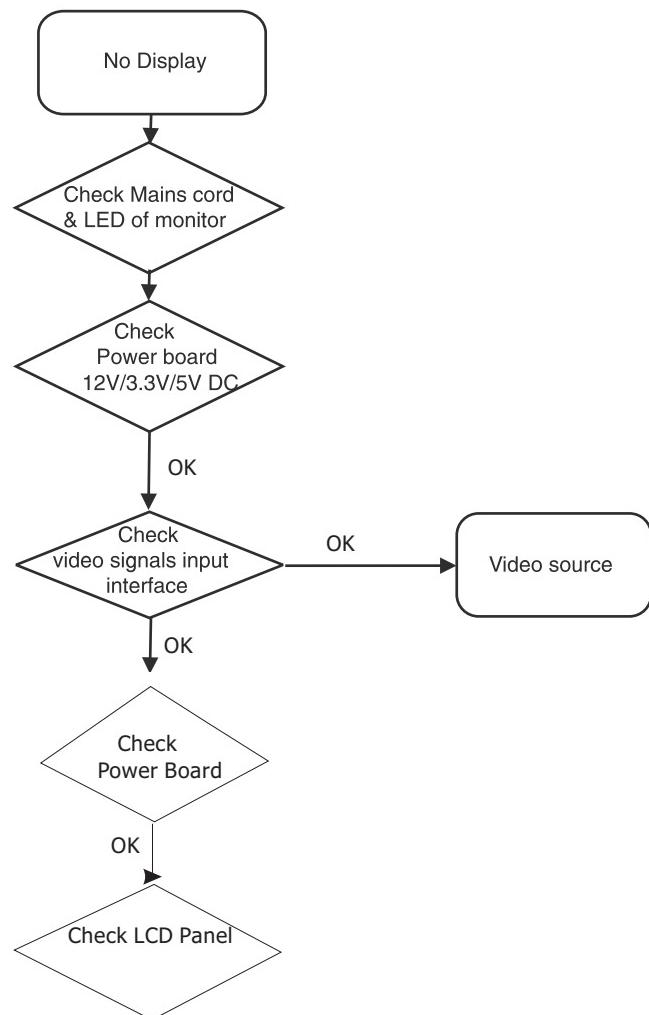


## Repair Flow Chart

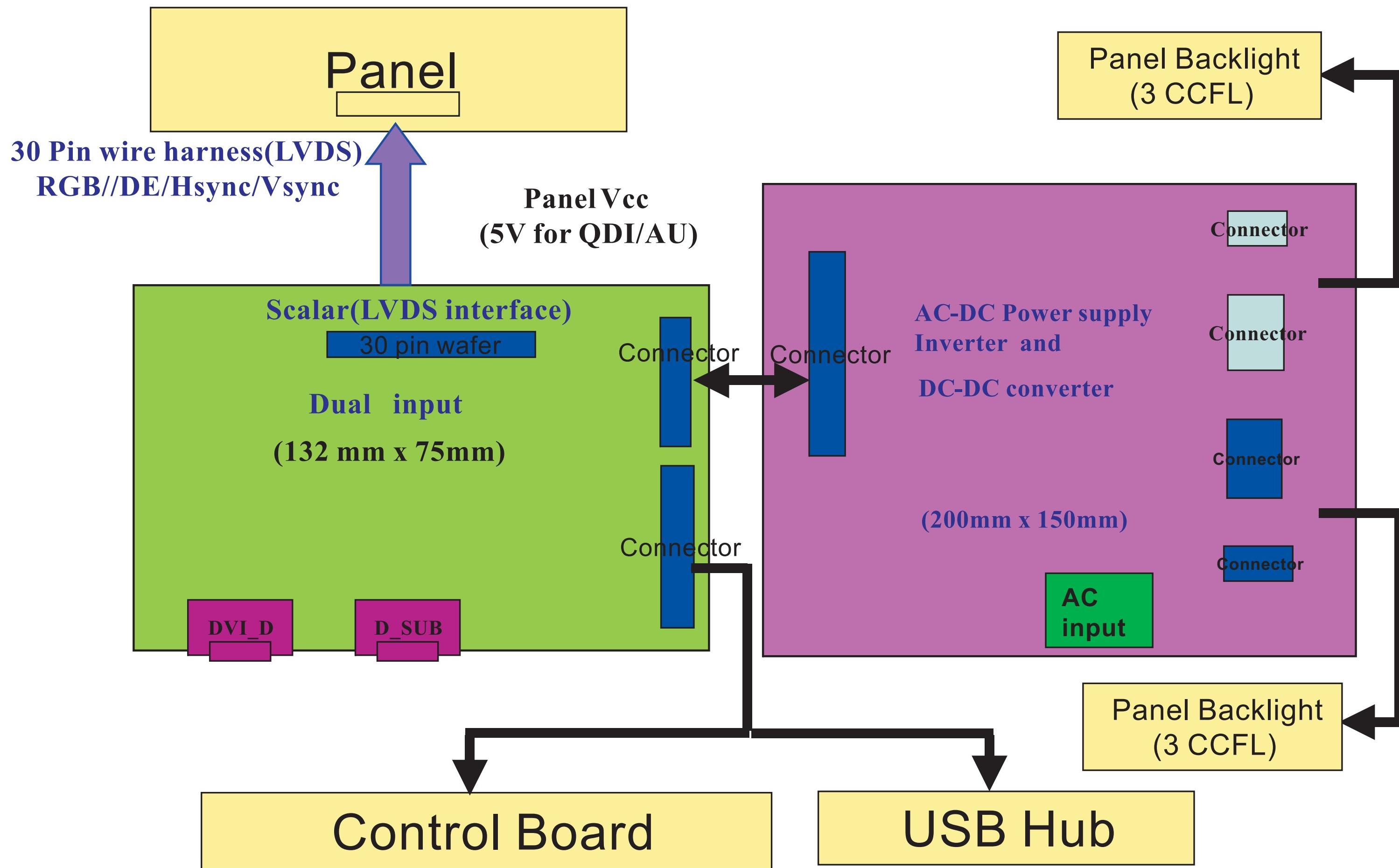


# Repair Flow Chart

200WP7 LCD 37  
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## Block Diagram



CONTENTS

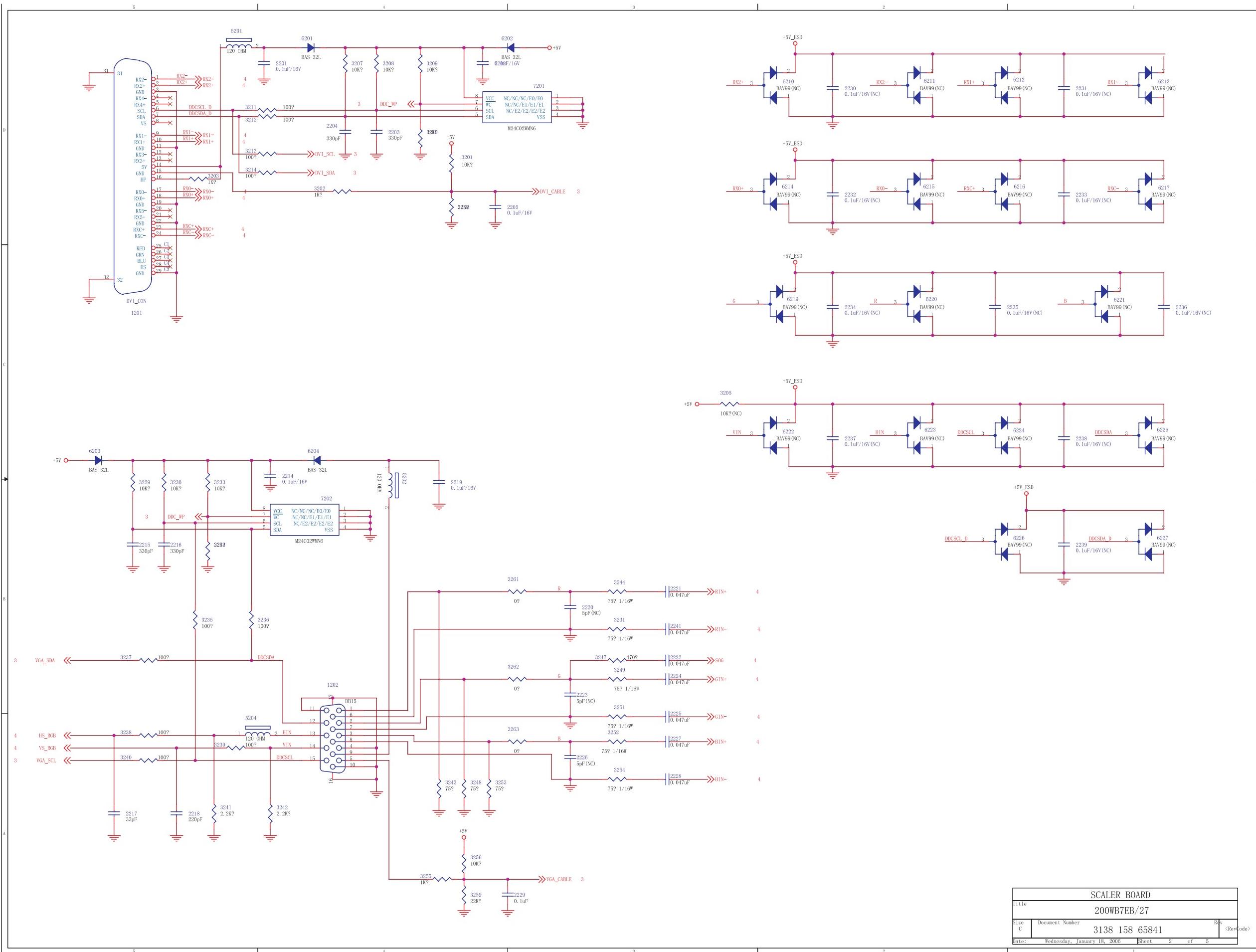
## REVISION HISTORY

Date	Author	Ver	Comments
2005-09-21	Jerry Chen	A	PHILIPS UH7 200B7 SCALER SEHEMATIC FOR PROTOTYPE
2005-09-26	Jerry Chen	A	To add R419 100R at Scaler IC 68563HF pin 45
2005-09-26	Jerry Chen	A	To add C424 100N at IC 68563HF DPLL_VDD
2006-01-13	Kurtz Ko	1	<b>Modify D-Sub Input circuits for phase improvement</b>

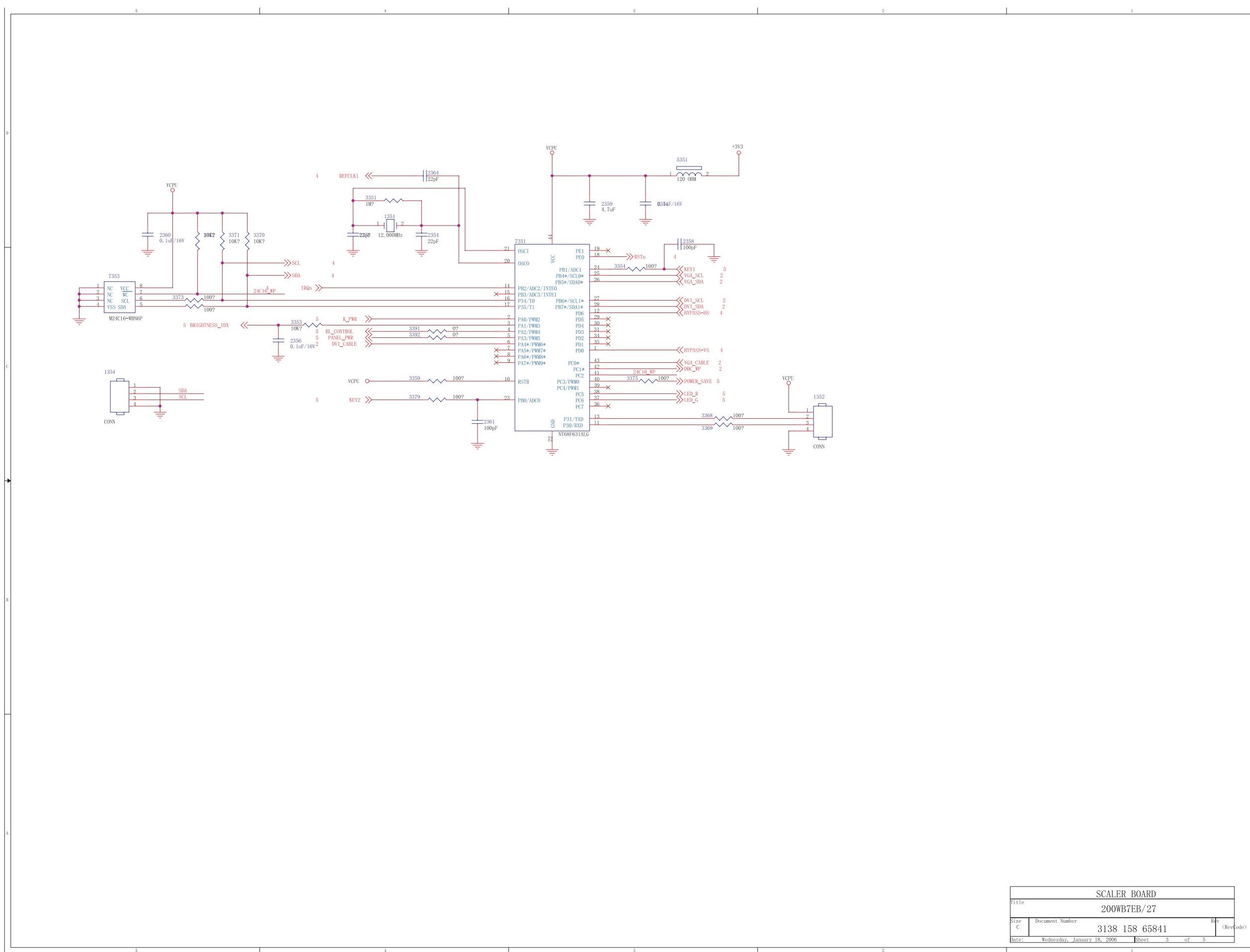
Approval	Position	Signature	Date

SCALER BOARD		
Title 200WB7EB/27		
Size A	Document Number 3138 158 65841	Rev <RevCode>
Date:	Wednesday, January 18, 2006	Sheet    1    of    5

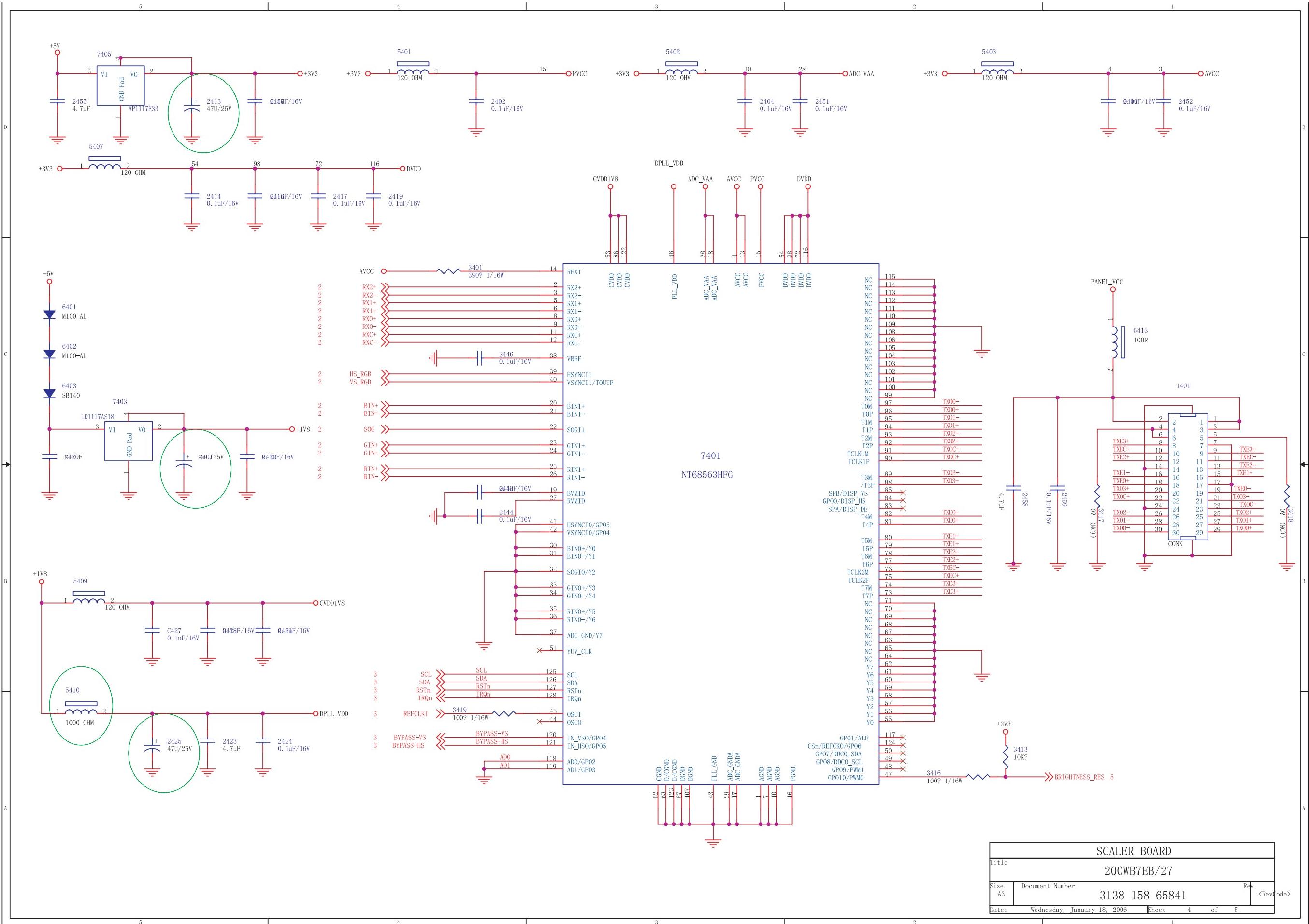
## Scaler Diagram-2



## Scaler Diagram-3



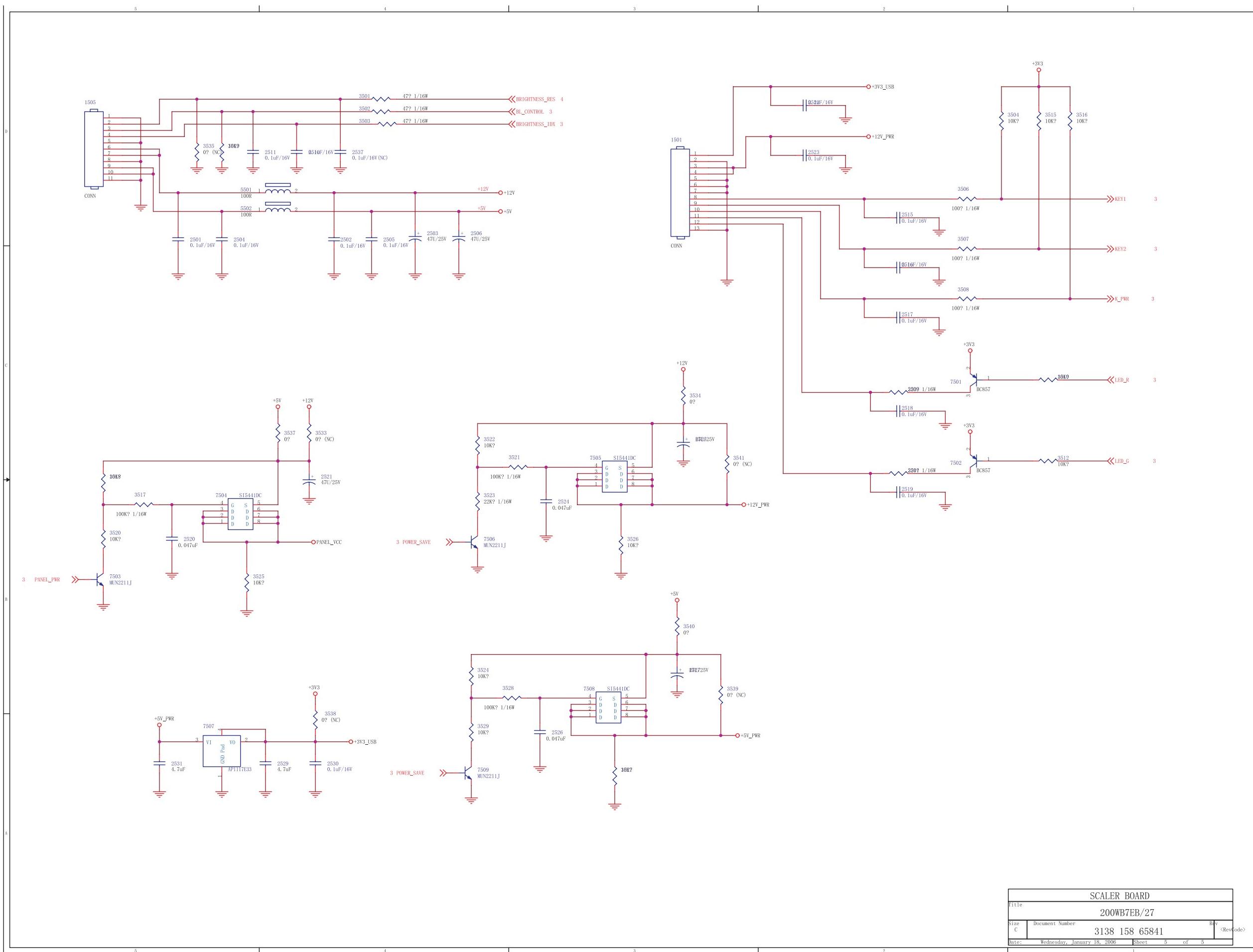
## Scaler Diagram-4



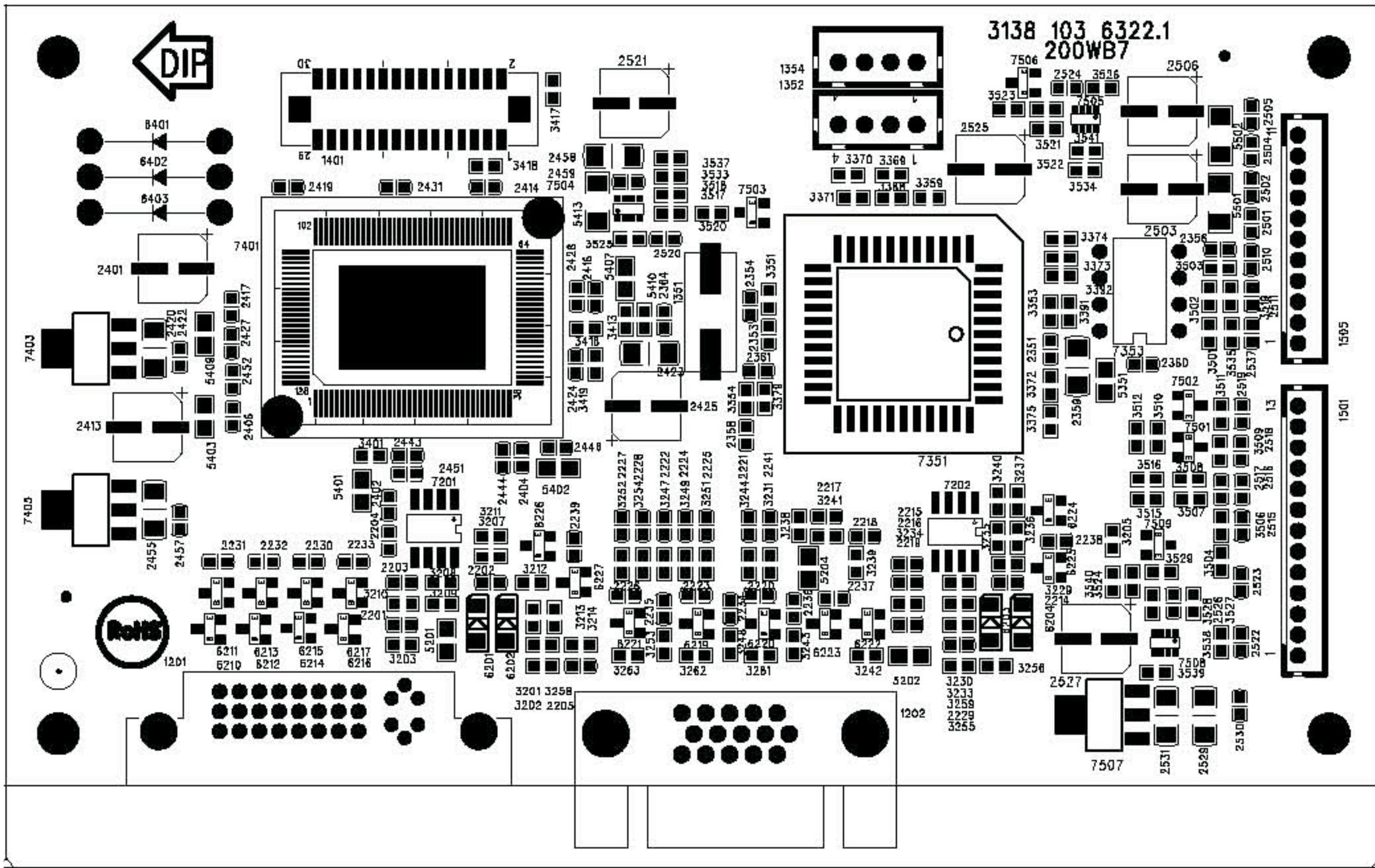
# Scaler Diagram-5

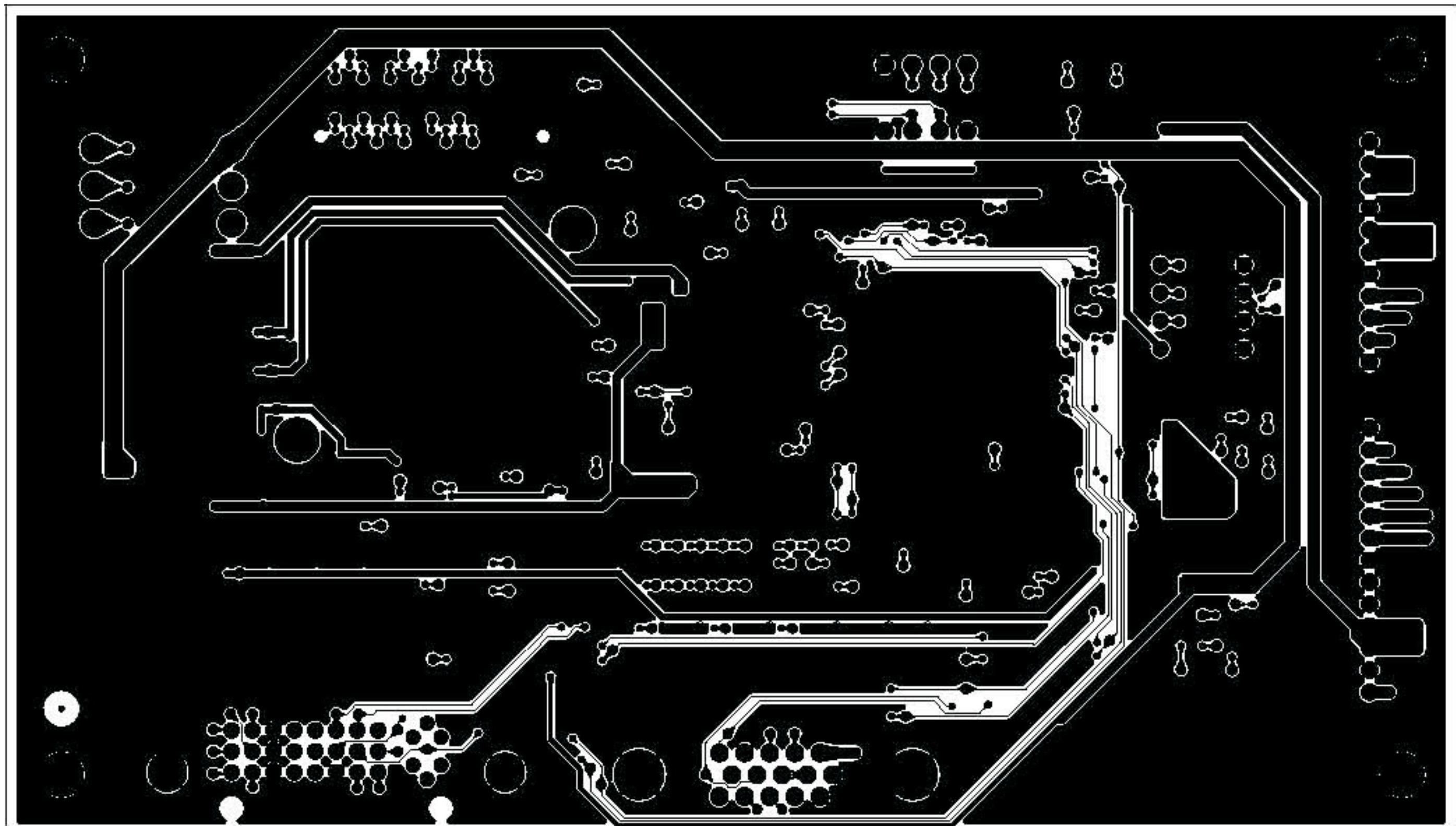
200WP7 LCD

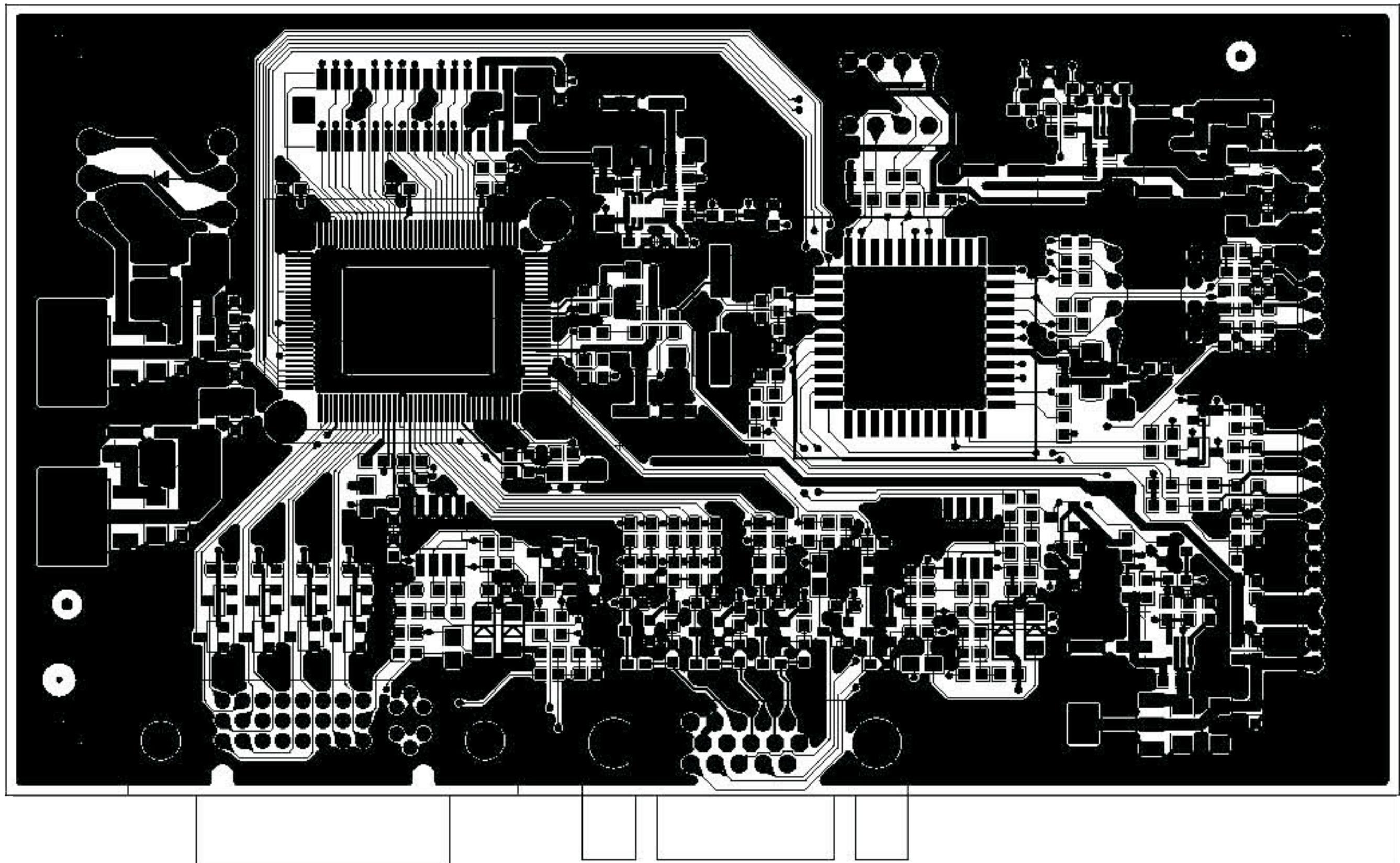
43



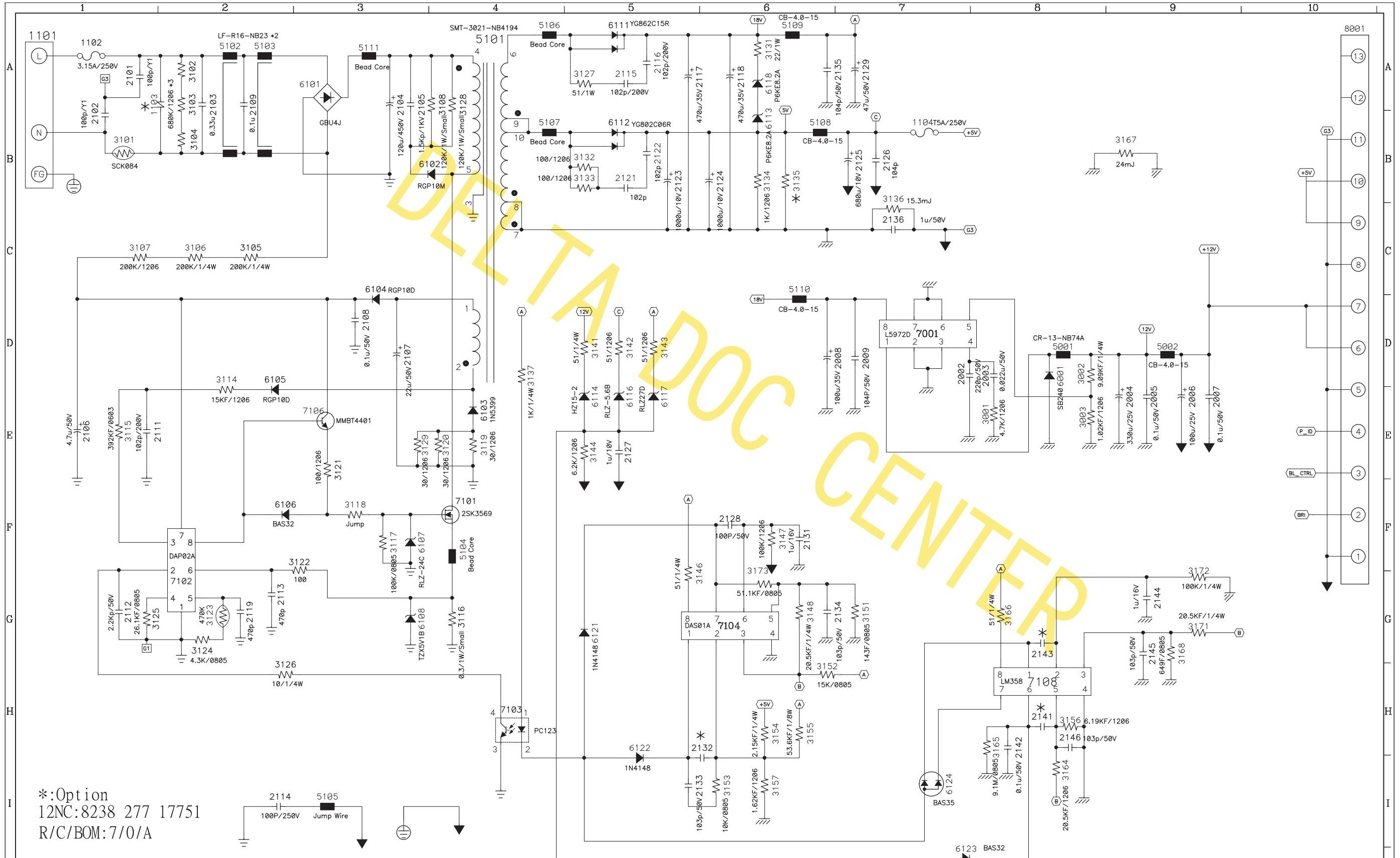
SCALER BOARD		
Title	200WP7EB/27	
Size	Document Number	Rev <RevCode>
C	3138 158 65841	
Date:	Wednesday, January 18, 2006	Sheet 5 of 5







## Power Diagram-1



\*:Option  
12NC:8238 277 17751  
R/C/BOM:7/0/A

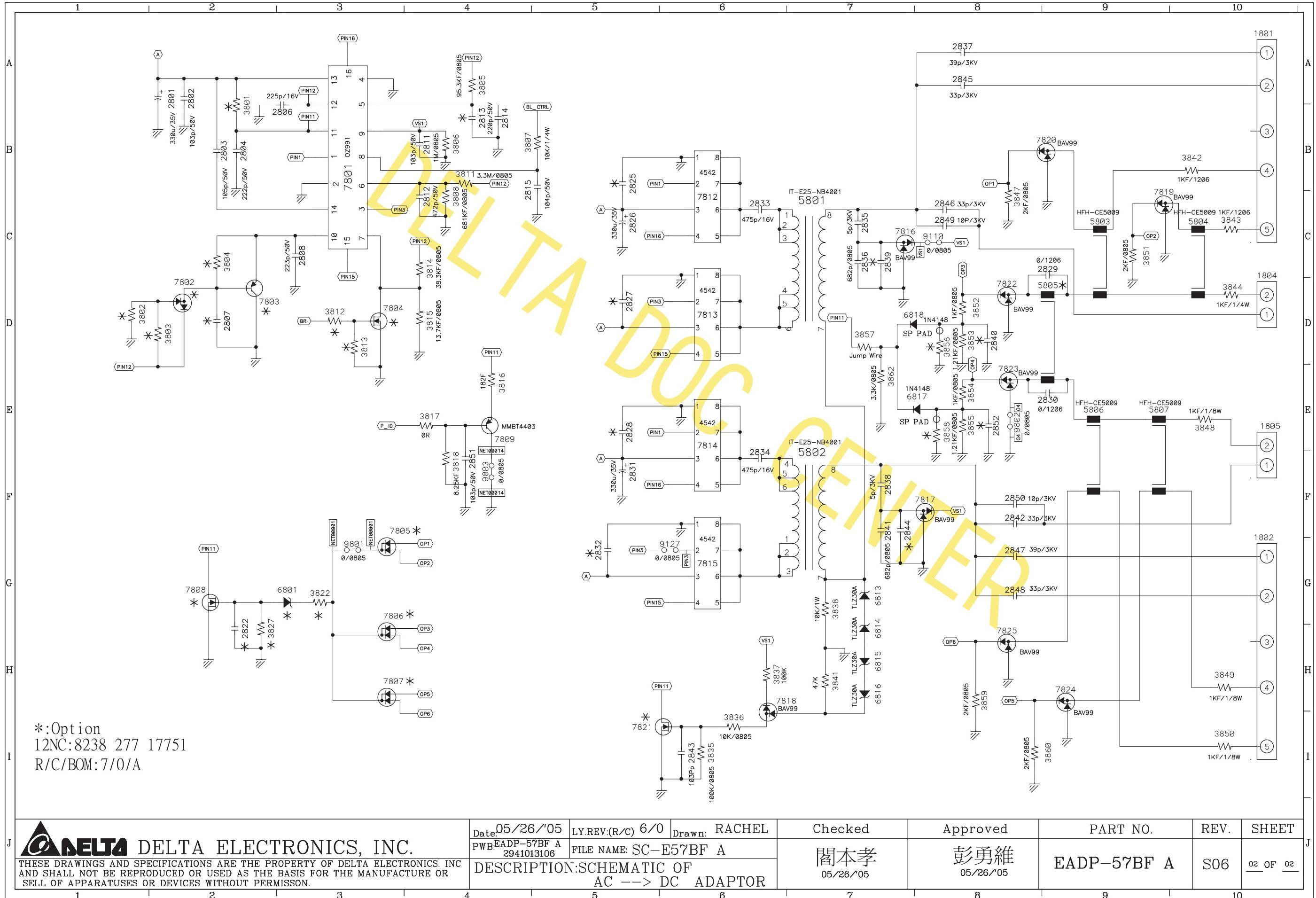


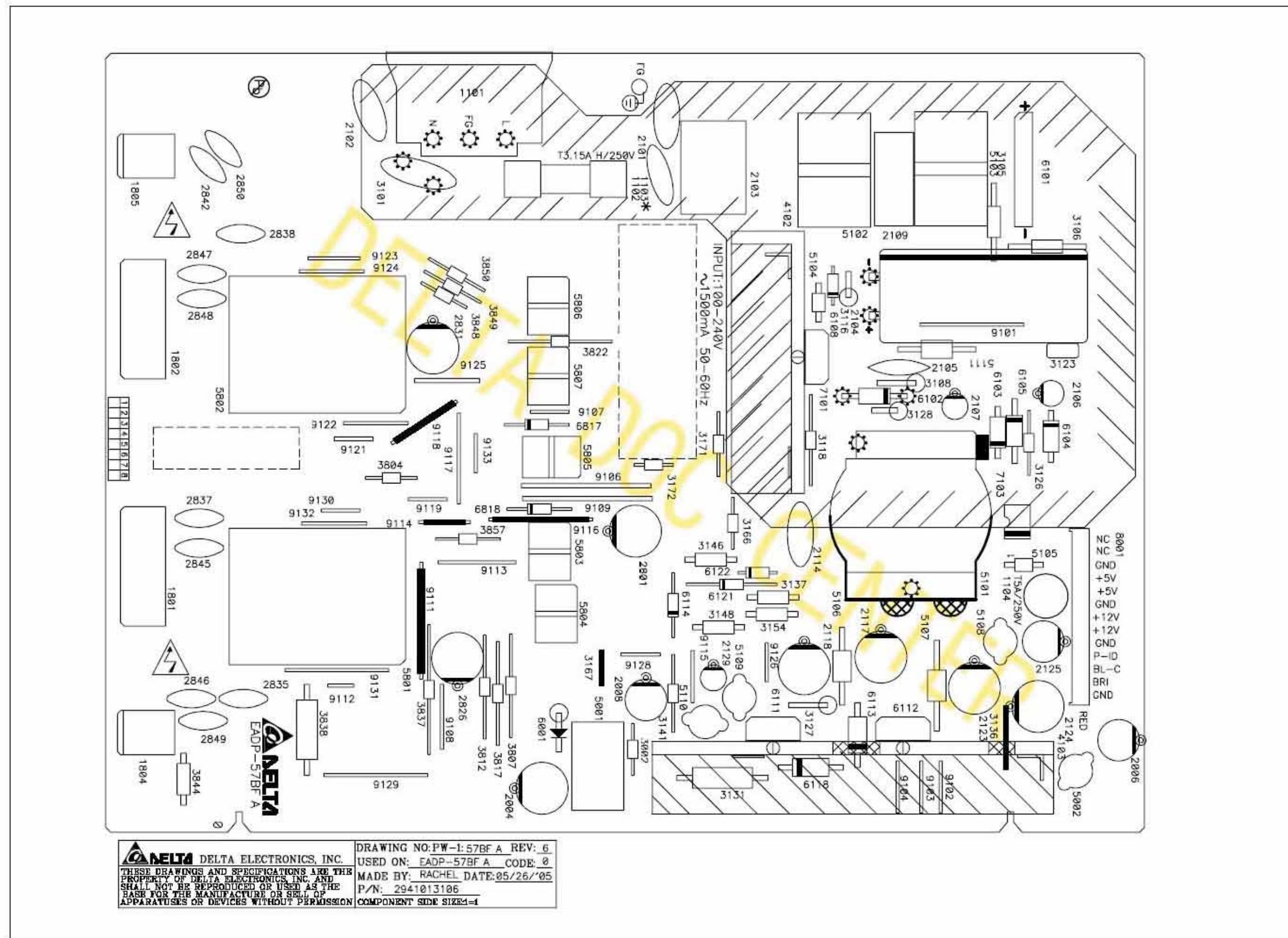
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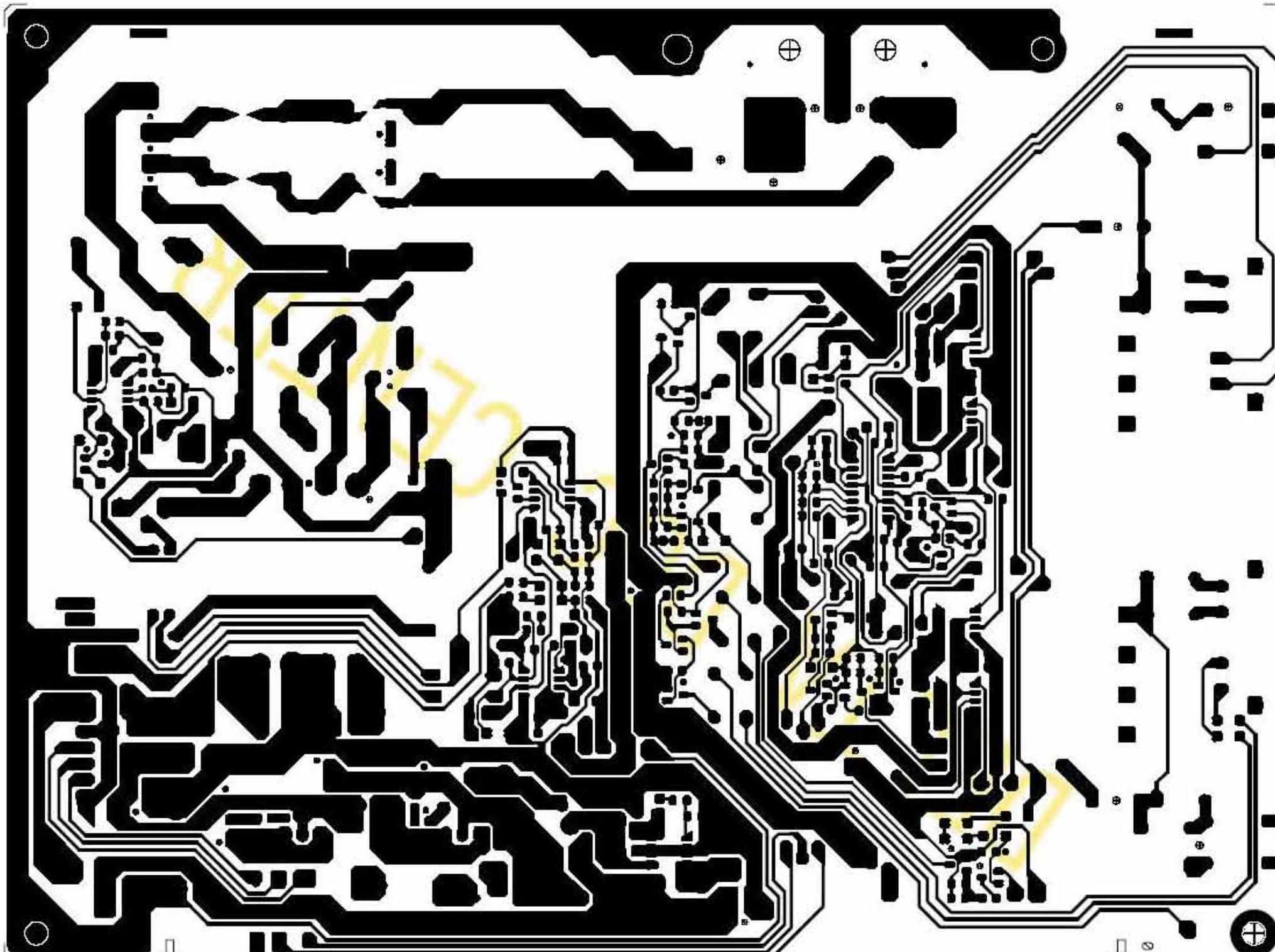
J	 <b>DELTA</b> ELECTRONICS, INC.	Date: 05/26/05	LY.REV:(R/C) 6/0	Drawn: RACHEL	Checked	Approved	PART NO.	REV.	SHEET	J
		PWB:EADP-57BF A 2941013106	FILE NAME: SC-E57BF A		閻本孝 05/26/05	彭勇維 05/26/05	EADP-57BF A	S06	01 OF 02	
1	2	3	4	5	6	7	8	9	10	

## Power Diagram-2





## Power Board C.B.A.-2



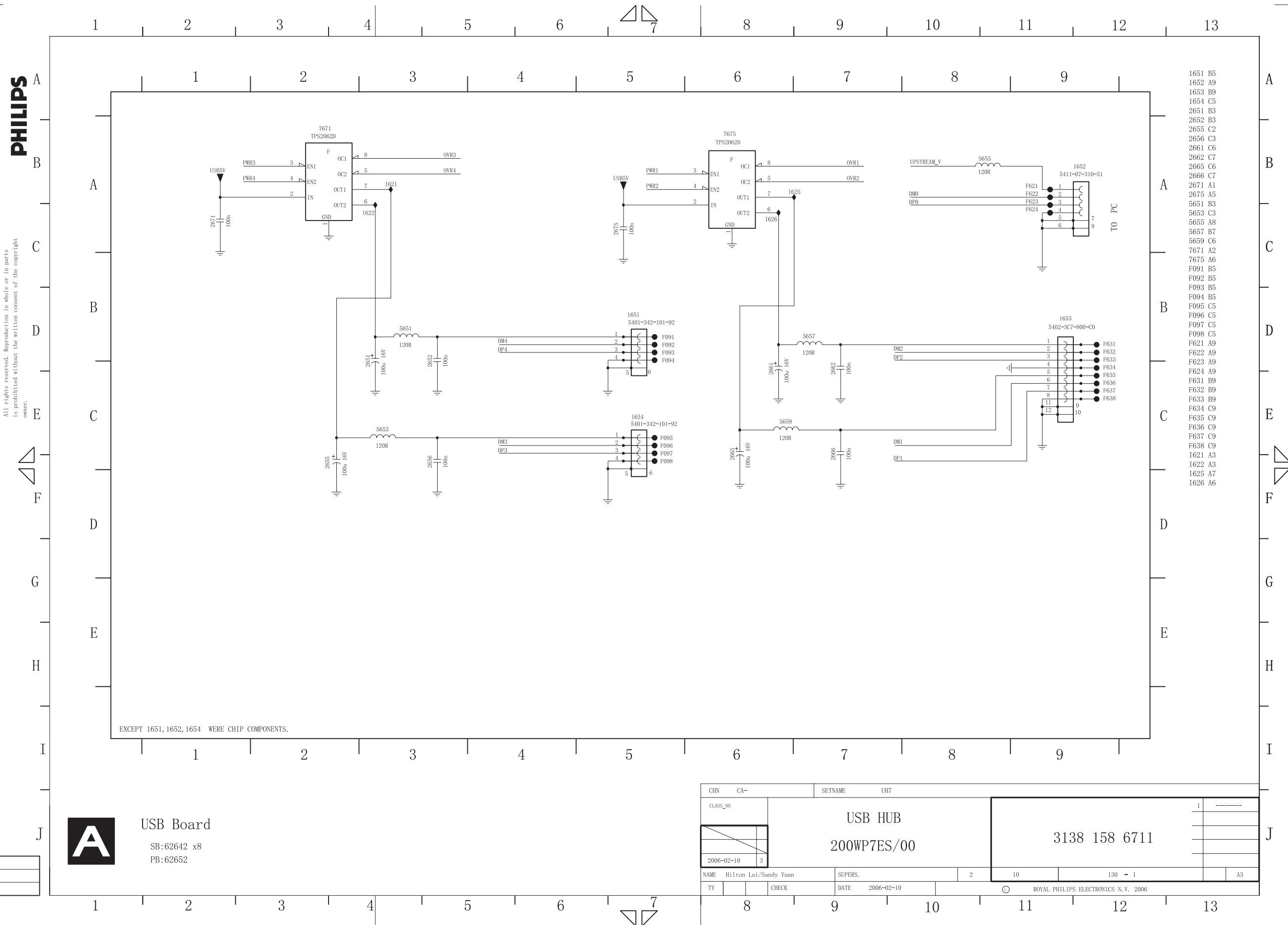
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DRAWING NO:PT-57BF A REV: 6  
USED ON: EADP-57BF A CODE: 0  
MADE BY: RACHEL DATE: 05/26/05  
P/N: 2941013105  
SOLDER SIDE SIZE 1=1

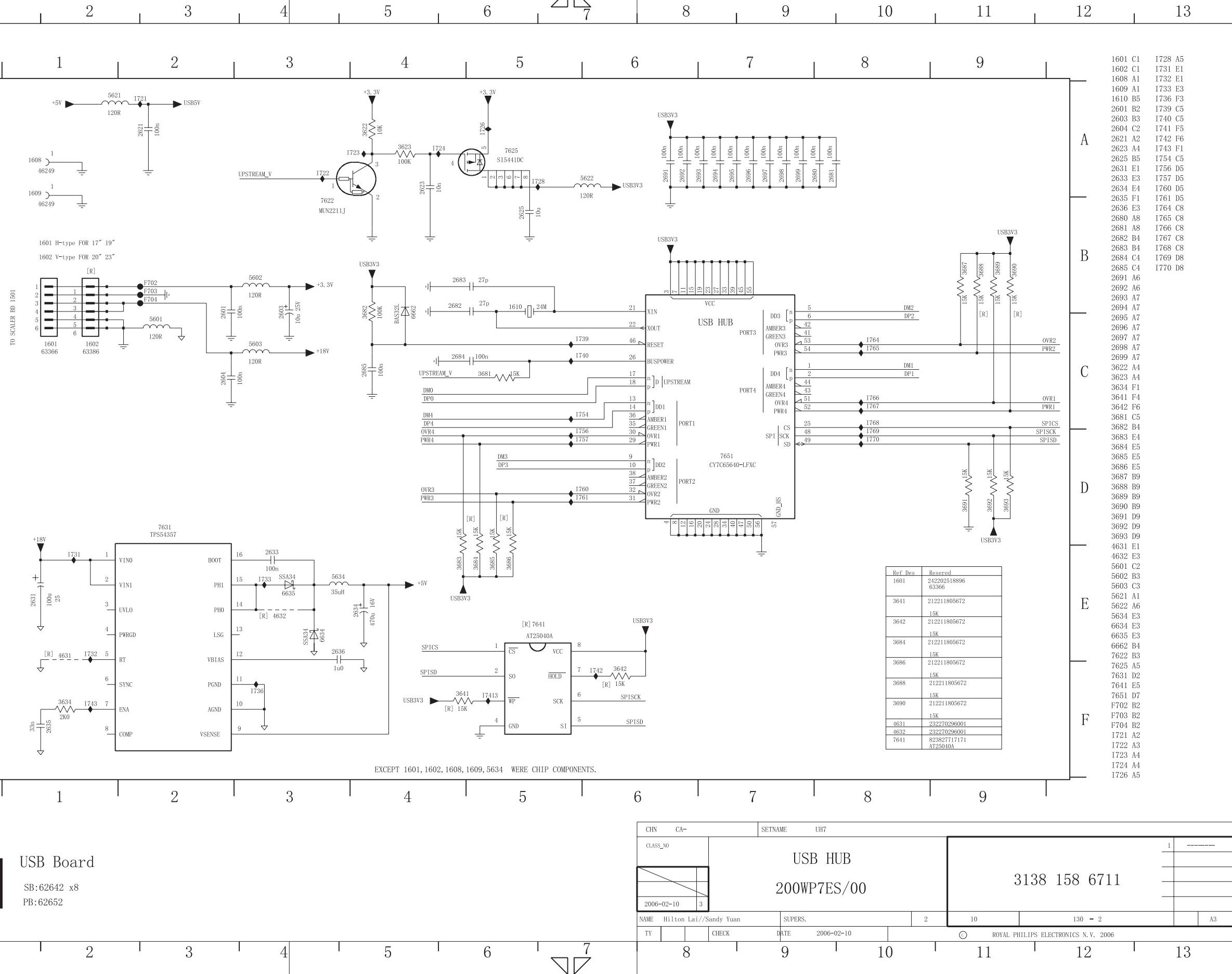
# USB Diagram

200WP7 LCD

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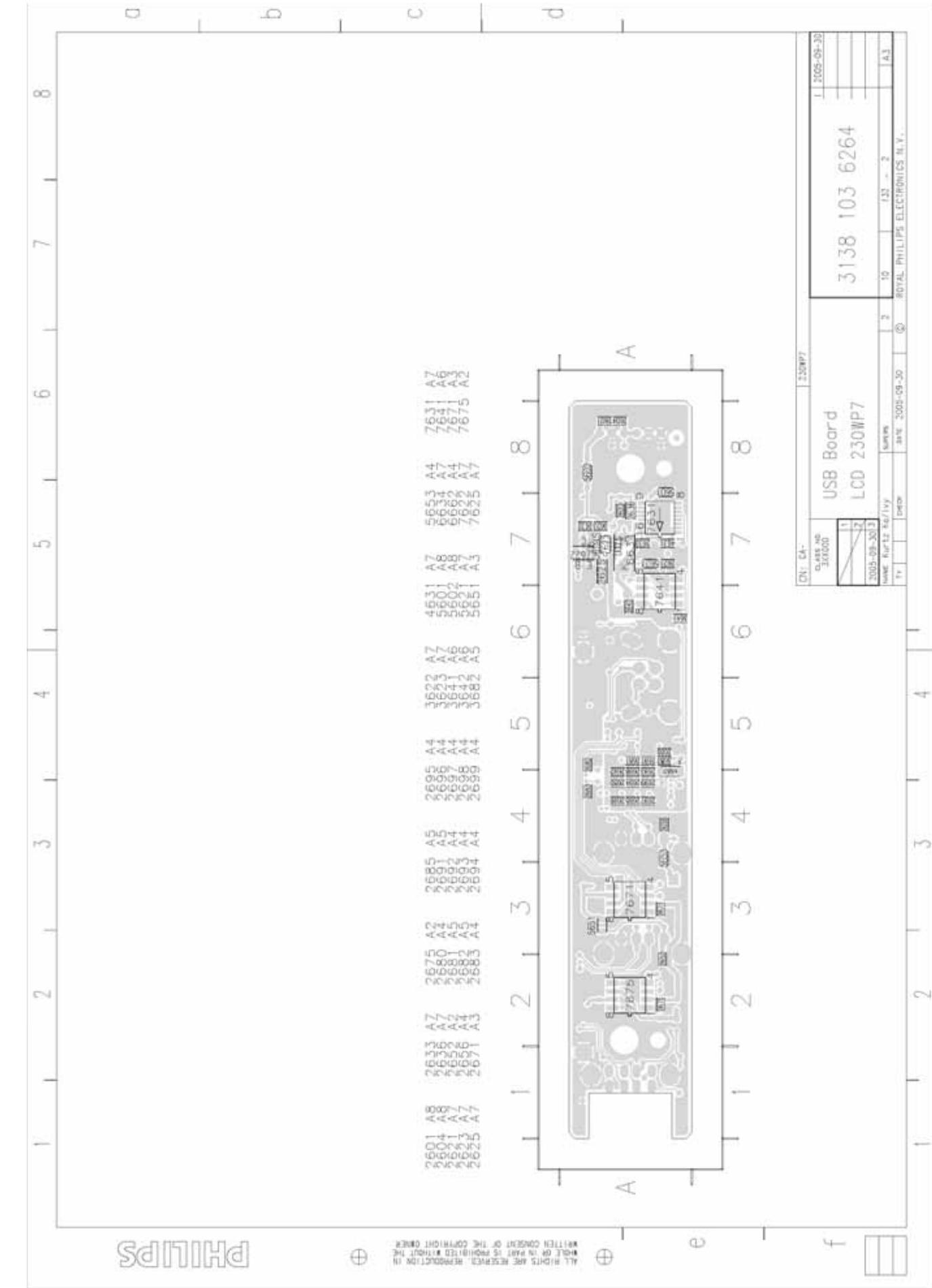
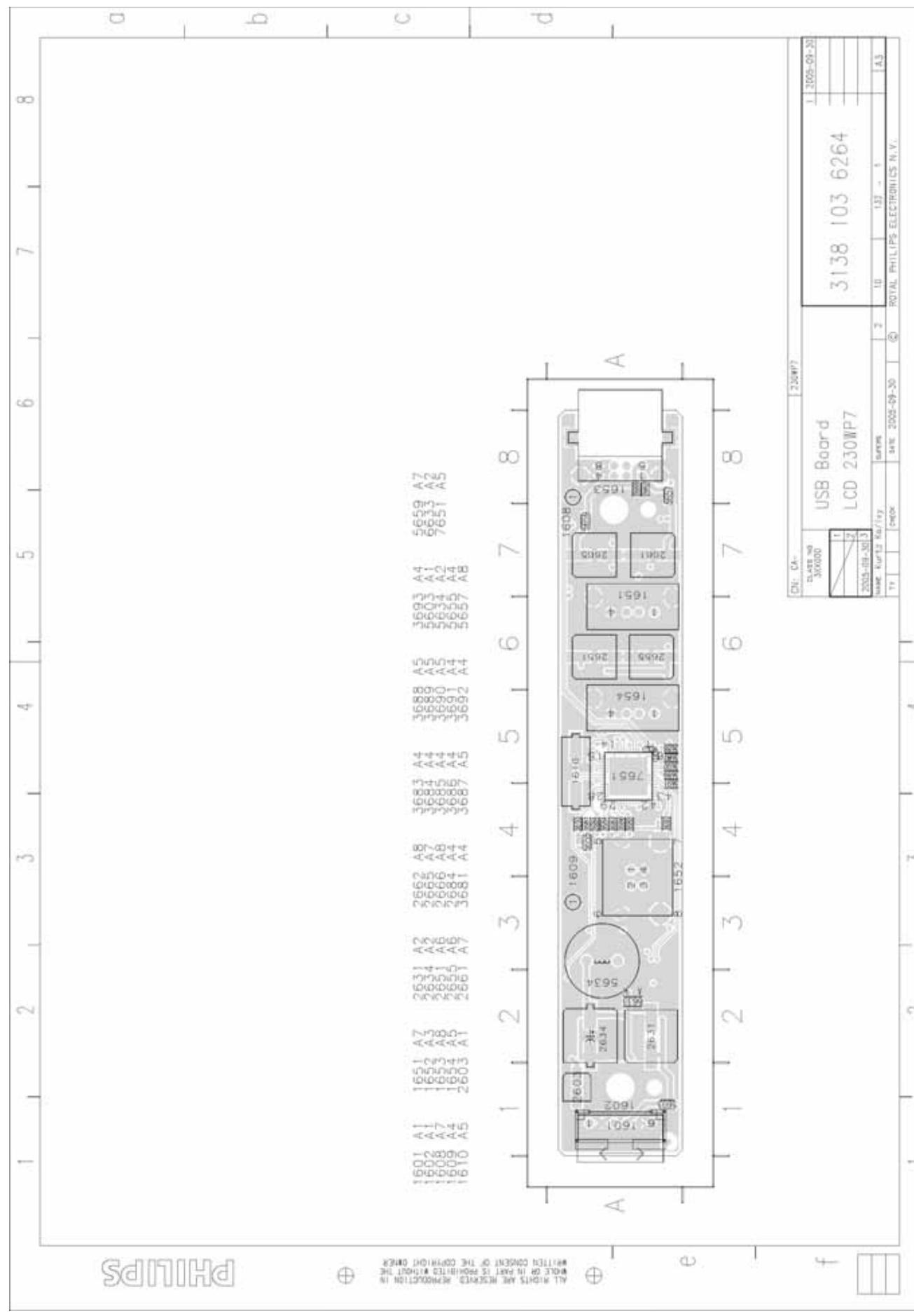
## USB Diagram

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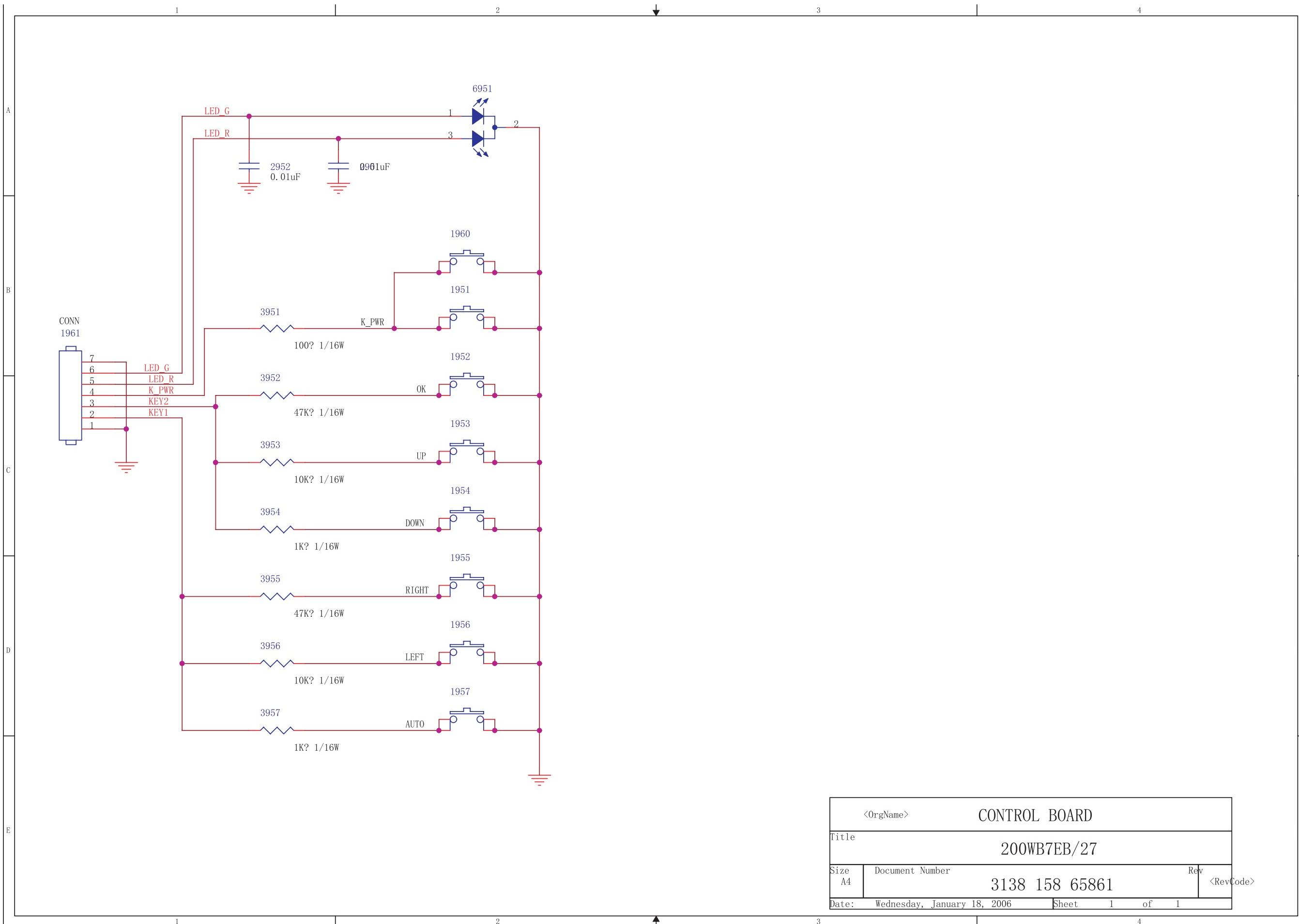
USB Board C.B.A

200WP7 LCD

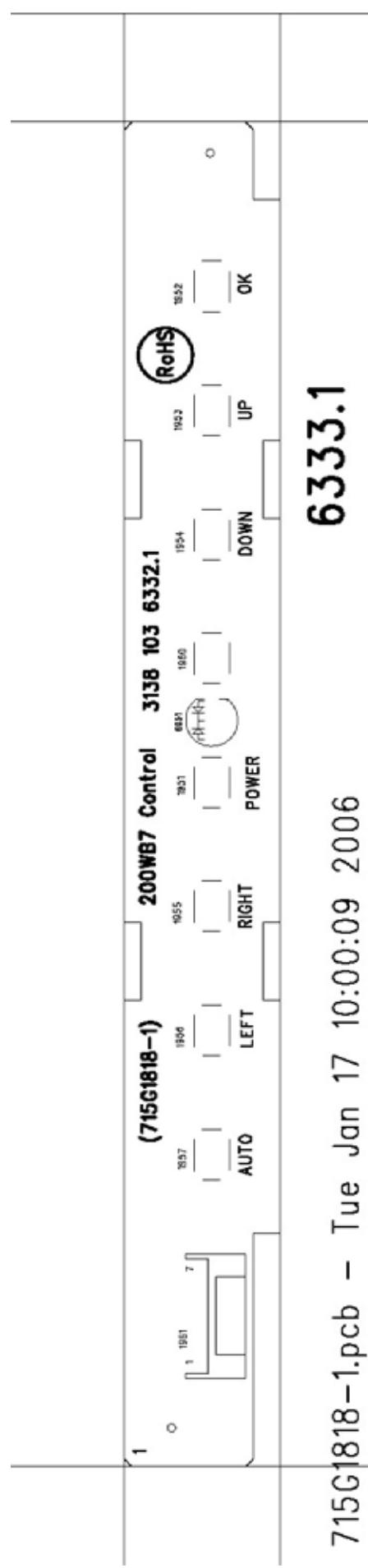
53



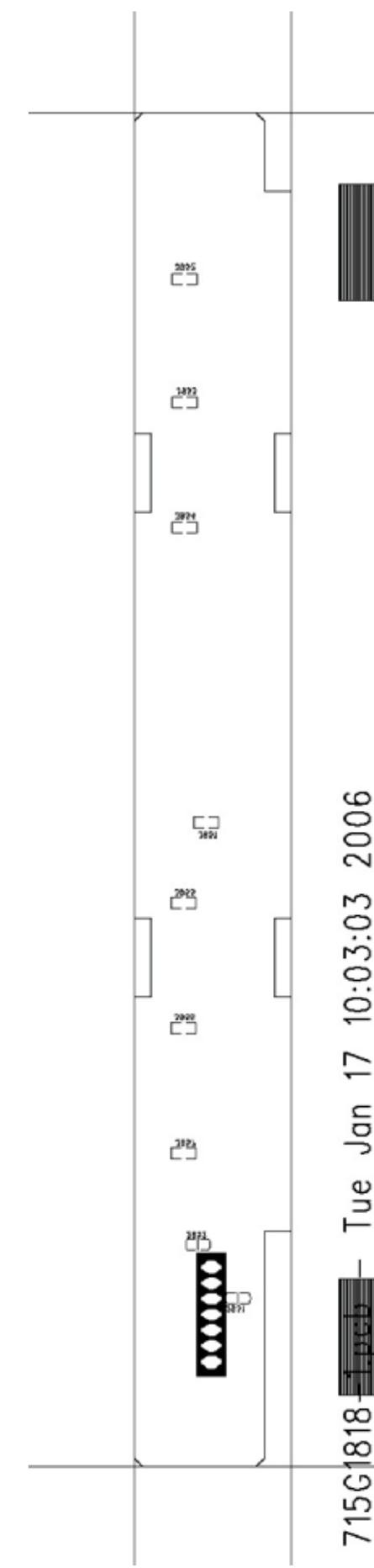
## Control Board Diagram



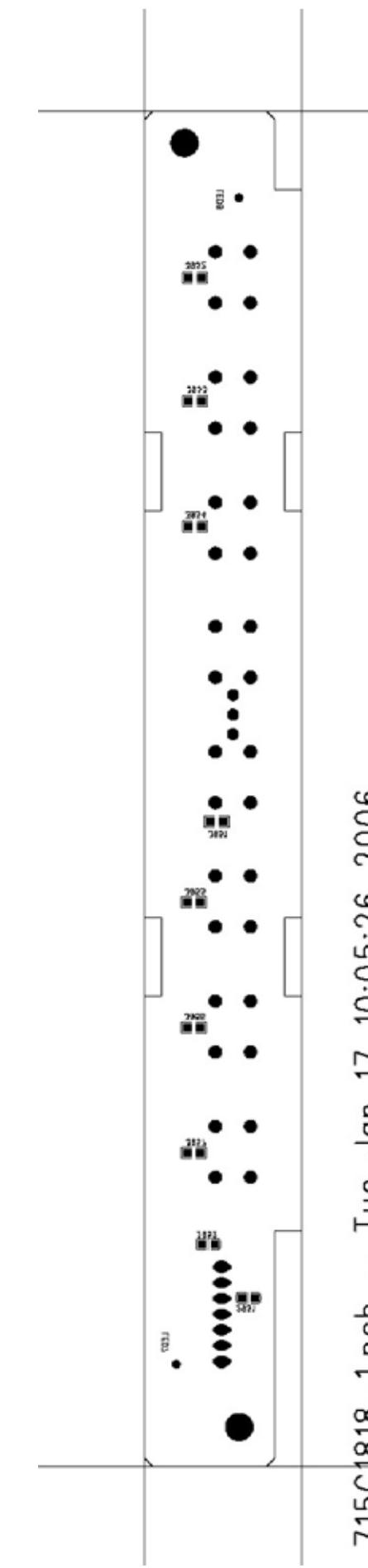
## Control Board C.B.A



715G1818-1.pcb - Tue Jan 17 10:00:09 2006



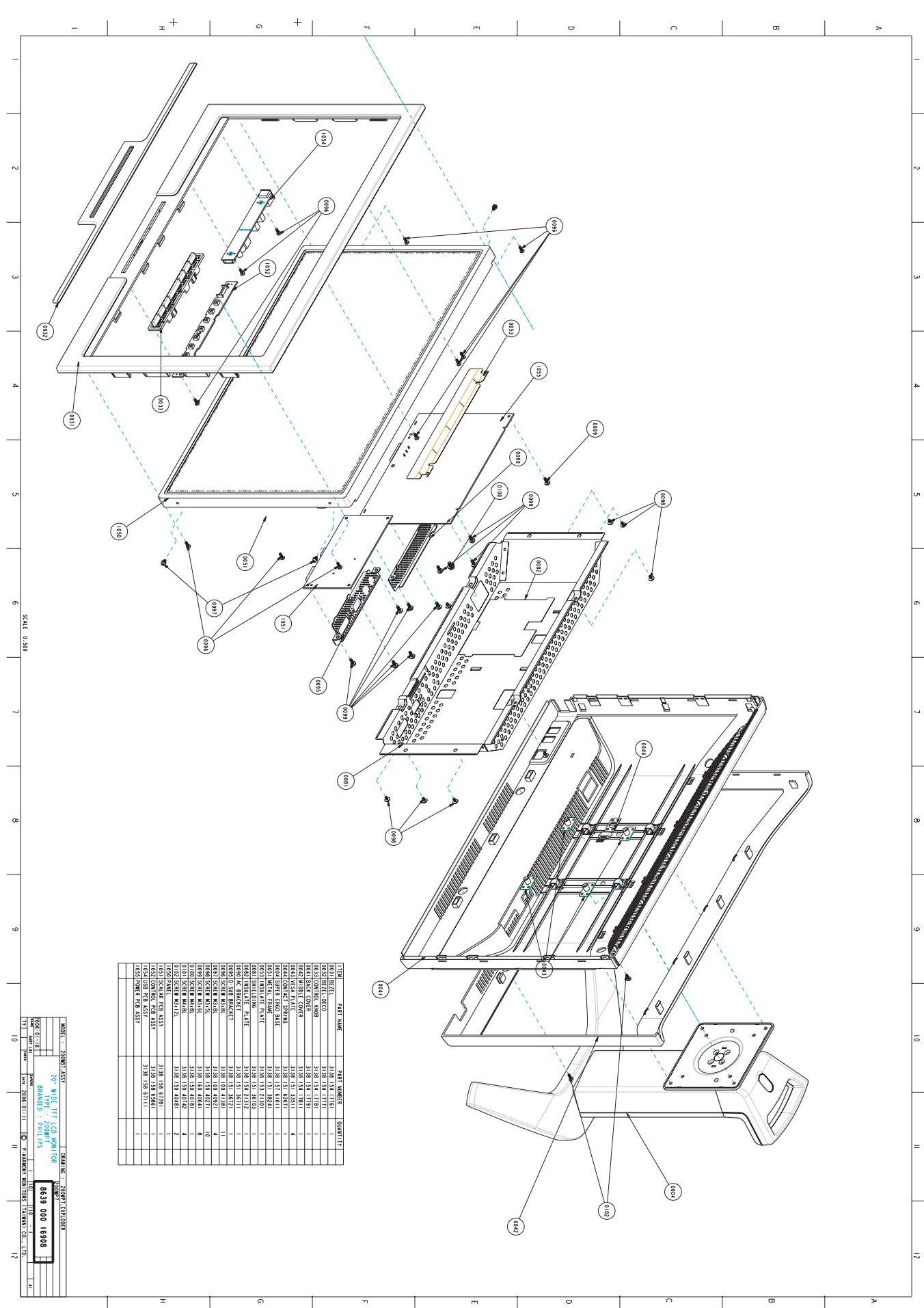
715G1818-~~715G1818~~- Tue Jan 17 10:03:03 2006



715G1818-1.Pcb - Tue Jan 17 10:05:26 2006

## EXPLODED VIEW

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HUDSON7-200WP7 20.1"  
GENERAL PRODUCT  
SPECIFICATION

- . ANALOG AND DIGITAL DUAL INPUT
- . AUTO PICTURE ADJUSTMENT
- . 15 FACTORY PRESET MODES AND 40 PRESET MODES WHICH CAN BE RECOVERED TO PRESET MODES, 25 USER MODES
- . USER FRIENDLY OSD DISPLAY FOR MODE IDENTIFICATION /ADJUSTMENT
- . DDC 2B COMMUNICATION CAPABILITY
- . MAX. RESOLUTION 1680\*1050 NON-INTERLACED AT 76 HZ
- . 20.1 "COLOR TFT LCD FLAT PANEL
- . EASY TILT & FOLDABLE BASE
- . FULL RANGE POWER SUPPLY 90 - 264 VAC
- . CE ENVIRONMENTAL POLICY
- . ANTI-GLARE TO REDUCE LIGHT REFLECTION
- . POWER MANAGEMENT CAPABILITY
- . SOG SUPPORT
- . TCO 03

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CLASS NO.		20.1" TFT UXGA LCD Monitor (HUDSON 7-200WP7)			8639 000 16908		
2006-02-16							
NAME	Jason Wang	SUPERS.	25	590	—	1	10
TY		CHECK	DATE	2006-02-16	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.		
2838	100	05424					A4





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## 1.0 FOREWORD

This specification describes a 20.1" WSXGA multi-scan color TFT LCD monitor with max. resolution up to 1680\*1050/ 60 Hz(digital) /1680\*1050/75Hz(analog) non-interlaced.

All optical characteristics (including WHITE-D, Brightness, and so on) are determined according to panel specification after warming up approximate 30 minutes that brightness stability is optimal, and follows strictly after panel specification.

## 2.0 PRODUCT PROFILE

This display monitor unit is a color display monitor enclosed in PHILIPS global styling cabinet, which has an integrated tilt and swivel base.

## 2.1 LCD

Type NR. : LM201W01 SLA1 (LG.PHILIPS)

Outside dimensions	: 459.4(H)*296.4(V)*22.8(D) (Typ) mm
Pixel Pitch ( mm )	: 0.258 mm x 0258mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.7M colors (8 bits)
Backlight	: Six CCFL's
Active area(WxH)	: 433.44x270.9mm (20.1" W diagonal)
View angle	: Horizontal & Vertical 178 degree (CR>=10)
Contrast ratio	: 600:1 (Typ.) ,500 :1 (min)
White luminance	: Panel original color >250nits (min), 300 nits (Typ.)

Type NR.

: M201EW01 V0 (AUO)

Outside dimensions	: 459.4(H)*296.4(V)*22.8(D) (Typ.) mm
Pixel Pitch ( mm )	: 0.258 mm x 0258mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.7M colors (8 bits)
Backlight	: Six CCFL's
Active area(WxH)	: 433.44x270.9mm (20.1" W diagonal)
View angle	: Horizontal & Vertical 176 degree (CR>=10)
Contrast ratio	: 800:1 (Typ.) ,400 :1 (min)
White luminance	: Panel original color >240nits (min), 300 nits (Typ.)

## 2.2 Scanning frequencies

Hor.	: 30 - 98 K Hz
Ver.	: 56 - 76 Hz

## 2.3 Video dot rate

: 210 MHz

## 2.4 Power input

: 90-264 V AC, 50/60 ± 2 Hz

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- 2.5 Power consumption : < 60W maximum with USB  
 2.6 Dimensions : 483(W) \* 402(H) \* 235(D) mm  
 Weight : 8.6Kg  
 2.8 Functions :  
   (1)D-SUB analog R/G/B separate inputs, H/V sync separated, Composite (H+V) TTL level, SOG sync  
   (2)DVI digital Panel Link TMDS input  
   (3) Audio Signal: PC line in  
 2.9 Ambient temperature: 0 °C - 35 °C  
 2.10 Regulatory compliance:

Safety * Medical compliance only apply for dedicated models	B (Poland), CCC (China), CE (Europe), CSA (Canada), DEMKO (Nordic), EZU (Czech), FIMKO (Nordic), Gost (Russia), IEC 950 CB Report, NOM NYCE (Mexico), PSB (Singapore), SEMKO (Nordic), SISIR CPA (Singapore), TUV (Germany), UL (USA) UL2601-1 (NAFTA), EN60601-1-1 (EU) and IEC60601-1 (WW)
EMI	C-tick, CE (Europe), FCC (USA), IC (Canada), VCCI (Japan), BSMI
Ergonomics	E2000, Nutek(Sweden), TCO2003 (T-color) & TCO95 (Black/Silver), TUV/GS
Compatibility	Windows2000, Windows 98/Me, Windows XP, NSTL

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NAME	Jason Wang	SUPERS.	25	590	—	5
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### 3.0 Electrical characteristics

#### 3.1 Interface signals

The input signals can be applied in three different modes:

##### 1). D-Sub Analog

Input signal: Video, Hsync., Vsync

Video: 0.7 Vp-p, input impedance, 75 ohms @DC

Sync. : Separate sync TTL level, input impedance 2.2k ohm terminate

Hsync Positive/Negative

Vsync Positive/Negative

Composite sync TTL level, input impedance 5k ohm terminate  
(Positive/Negative)

Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)

##### 2). Intel DVI Digital

Input signal: Single channel TMDS signal

### 3.2 Interface

#### 3.2.1 D-Sub Cable

Length : 1.8 M +100/- 0 mm (fixed)

Connector type : D-Sub male with DDC2B pin assignments.

Blue connector thumb-operated jackscrews

### USB hub

Input signal: Upstream input (V<sub>BUS</sub>, D+, D-, GND) via USB-B receptacle.

Output signal: Downstream output (V<sub>BUS</sub>, D+, D-, GND) through USB-A receptacle



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Pin assignment:

PIN No.	SIGNAL
1	Red
2	Green/ SOG
3	Blue
4	Sense (GND)
5	Cable detect
6	Red GND
7	Green GND
8	Blue GND
9	DDC +5V
10	GND
11	Sense (GND)
12	Bi-directional data
13	H/H+V sync
14	V-sync
15	Data clock

## 3.2.2 DVI Cable

The input signals are applied to the display through DVI-D cable.

Length : 1.8 M +/- 50 mm (fixed)

Connector type : DVI-D male with DDC-2B pin assignments

White connector thumb-operated jackscrews

Pin assignment:

Pin No.	Description
1	TMDS data2-
2	TMDS data2+
3	TMDS data2 shield
4	NC
5	NC
6	DDC clock
7	DDC data
8	Analog V-sync
9	TMDS data1-
10	TMDS data1+
11	TMDS data1 shield
12	NC
13	NC
14	+5V
15	Ground (return for +5V and H/Vsync)
16	Hot plug detect
17	TMDS data0-

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	BRAND : PHILIPS							
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NAME Jason Wang	SUPERS.	25	590	— 7	10		A4	
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18	TMDS data0+
19	TMDS data0 shield
20	NC
21	NC
22	TMDS clock shield
23	TMDS clock+
24	TMDS clock-

## 3.2.3 USB Cable (High Full Speed)

Length. : 1.8 M +/- 50 mm (Max.)

Connector type. : USB- B Plug (Input)  
USB- A Plug (Output)

Pin Assignment:

Pin No.	Description
1	VBUS
2	Data+
3	Data-
4	GND

## 3.2.5 Software control functions via OSD/control adjustable functions:

## (1) PC Analog only Signal Input Mode

Adjustable functions:



CLASS NO.		20.1" TFT UXGA LCD Monitor (HUDSON 7-200WP7)			8639 000 16908		
2006-02-16		TYPE	: 200WP7ES/00	BRAND	: PHILIPS		
NAME	Jason Wang	SUPERS.		25	590	—	8
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## MONITOR SETUP

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- Brightness & Contrast
- Color
- Position
- Input Selection
- More Settings
- Reset
- Exit

Serial No.: TV000198  
800x600@60Hz

## Brightness



## Contrast



Back

Move selection then



Parent Panel

Footer

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Main Menu	Sub Menu	Sub Menu 2	Description	Default
Exit			Default starting point	
Brightness & Contrast				
	Brightness		Sliding bar	100
	Contrast		Sliding bar	50
Color				
	Original			
	9300K			
	6500K			6500K
	sRGB			
	User define			

CLASS NO.	20.1" TFT UXGA LCD Monitor (HUDSON 7-200WP7)			8639 000 16908		
	TYPE : 200WP7ES/00					
	BRAND : PHILIPS					
2006-02-16				25	590	— 9
NAME Jason Wang	SUPERS.				10	A4
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	R		Sliding bar	
	G		Sliding bar	
	B		Sliding bar	
Position				
	Position			
	Horizontal		Sliding bar	
	Vertical		Sliding bar	
More Settings				
	Language	English	Left/right arrow to select	English
		French		
		German		
		Italian		
		Spanish		
		Russian		
	Phase / Clock	Phase	Sliding bar	
		Clock	Sliding bar	
	OSD setting	OSD position V		
		OSD position H	Sliding bar	
Reset				

## (2) Digital interface OSD :

Adjustable functions:

1 <sup>st</sup> LEVEL	2 <sup>nd</sup> LEVEL	3rd LEVEL
MONITOR SETUP		
Exit		
Brightness & Contrast	Brightness Contrast	
Color	Original Color, 9300K, 6500K, sRGB, User Define	
Input Selection	Analog(D-Sub), Digital (DVI-D), Analog (DVI-A)	

CLASS NO.

20.1" TFT UXGA LCD Monitor  
(HUDSON 7-200WP7)

2006-02-16

TYPE : 200WP7ES/00

BRAND : PHILIPS

8639 000 16908

NAME	Jason Wang	SUPERS.	25	590	—	10	10	A4
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More Settings	Language	/00,/05 : English, Spanish, French, German, Italian and Russian
Reset	Phase/ Clock	Phase Clock
	OSD Settings	Horizontal Vertical
	No Yes	
Serial No.: (Serial No.)		
Timing Mode		
Up/Down to Move, <input type="button" value="ok"/> to Confirm		

### 3.3 Timing requirement

#### 3.3.1 Mode storing capacity

- 1.) Factory preset modes : 15
- 2.) Preset modes : 40
- 3.) User define modes : 24

#### 3.3.2 Factory preset timings

The factory settings of size and centering are according to the reference timing charts  
(See fig-4, fig-5)

MODE NO.	1	2	3	4
RESOLUTION	640 x 350	720 x 400	640 x 480	640 x 480
Dot clock (MHz)	25.175	28.321	25.175	30.24
f h H-total (us) H-sync width (us) H-back porch (us) H-video width (us) H-front porch (us)	31.469kHz 31.778(800 dots) 3.813(96 dots) 1.907(48 dots) 25.422(640 dots) 0.636(16 dots)	31.468kHz 31.78(900dots) 3.813(108dots) 1.907(54dots) 25.42(720dots) 0.636(18dots)	31.5kHz 31.778(800 dots) 3.813(96 dots) 1.907(48 dots) 25.422(640 dots) 0.636(16 dots)	35 kHz 28.571 (864 dots) 2.116 (64 dots) 3.175(96 dots) 21.164(640 dots) 2.116(64 dots)

CLASS NO.	20.1" TFT UXGA LCD Monitor (HUDSON 7-200WP7)			8639 000 16908
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## GENERAL PRODUCT SPECIFICATION

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f v V-total (ms)	70Hz(70.09) 14.27(449 lines)	70Hz(70.085) 14.27(449 lines)	60Hz(59.940) 16.683 (525 lines)	67Hz 15 (525 lines)
V-sync width (ms)	0.064(2 lines)	0.064(2 lines)	0.064 (2 lines)	0.086(3 lines)
V-back porch (ms)	1.907(60 lines)	1.112(34 lines)	1.049 (33 lines)	1.114(39 lines)
V-video width (ms)	11.12(350 lines)	12.71(400 lines)	15.253 (480 lines)	13.714(480 lines)
V-front porch (ms)	1.175(37 lines)	0.381(13 lines)	0.317 (10 lines)	0.086(3 lines)
SYNC. H/V POLARITY	+/-	-/+	- / -	- / -
SEP. SYNC	Y	Y	Y	Y

MODE NO.	5	6	7	8
RESOLUTION	640 x 480	800 x 600	800 x 600	800 x 600
Dot clock (MHz)	31.500	36	40	49.498
f h H-total (us)	37.5kHz 26.667 (840 dots)	35.156kHz 28.444(1024 dots)	37.879kHz 26.4 (1056 dots)	46.875kHz 21.333 (1056 dots)
H-sync width (us)	2.032 (64 dots)	2.000 (72 dots)	3.2 (128 dots)	1.616 (80 dots)
H-back porch (us)	3.81 (120 dots)	3.556 (128 dots)	2.2 (88 dots)	3.232 (160 dots)
H-video width (us)	20.317 (640 dots)	22.222(800 dots)	20 (800 dots)	16.162 (800 dots)
H-front porch (us)	0.508 (16 dots)	0.666 (24 dots)	1 (40 dots)	0.323 (16 dots)
f v V-total (ms)	75Hz 13.333 (500 lines)	56.250Hz 17.778 (625 lines)	60.317Hz 16.579 (628 lines)	75Hz 13.333 (625 lines)
V-sync width (ms)	0.08 (3 lines)	0.057 (2 lines)	0.106 (4 lines)	0.064 (3 lines)
V-back porch (ms)	0.427 (16 lines)	0.626 (22 lines)	0.607 (23 lines)	0.448 (21 lines)
V-video width (ms)	12.8 (480 lines)	17.066 (600 lines)	15.84 (600lines)	12.8 (600 lines)
V-front porch (ms)	0.026 (1 line)	0.029 (1 line)	0.026 (1 line)	0.021 (1 line)
SYNC. H/V POLARITY	- / -	+ / +	+ / +	+ / +
SEP. SYNC	Y	Y	Y	Y

MODE NO.	9	10	11	12
RESOLUTION	1024 x 768	1024 x 768	1152 x 870	1280 x 1024
Dot clock (MHz)	65	78.75	100	108
f h H-total (us)	48.363kHz 20.677(1344 dots)	60.023kHz 16.66 (1312dots)	68.7kHz 14.56 (1456 dots)	63.981kHz 15.63 (1688 dots)
H-sync width (us)	2.092(136 dots)	1.219 (96 dots)	1.28 (128 dots)	1.037 (112 dots)
H-back porch (us)	2.462(160 dots)	2.235 (176 dots)	1.44(144 dots)	2.296 (248 dots)
H-video width (us)	15.754(1024 dots)	13.003 (1024 dots)	11.52 (1152 dots)	11.852 (1280 dots)
H-front porch (us)	0.369(24 dots)	0.203 (16 dots)	0.32 (32 dots)	0.445 (48 dots)
f v V-total (ms)	60.004Hz 16.666(806 lines)	75Hz (75.000) 13.328 (800 lines)	75Hz 13.333 (916 lines)	60.020Hz 16.661 (1066 lines)
V-sync width (ms)	0.124(6 lines)	0.05(3 lines)	0.044 (3 lines)	0.047 (3 lines)
V-back porch (ms)	0.600(29 lines)	0.446 (28 lines)	0.568(39 lines)	0.594 (38 lines)
V-video width (ms)	15.880(768 lines)	12.80 (768 lines)	12.678 (870 lines)	16.005 (1024 lines)
V-front porch (ms)	0.062(3 lines)	0.017 (1 line)	0.043 (4 line)	0.015 (1 line)
SYNC. H/V POLARITY	- / -	+ / +	- / -	+ / +

CLASS NO.

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(HUDSON 7-200WP7)

8639 000 16908

2006-02-16

TYPE : 200WP7ES/00

BRAND : PHILIPS

NAME Jason Wang

SUPERS.

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SEP. SYNC	Y	Y	Y	Y
MODE NO.	13	14	15	
RESOLUTION	1280 x 1024	1600 x 1200	1680 x 1050	
Dot clock (MHz)	135	162	146.249	
f h (kHz) H-total (us) H-sync width (us) H-back porch (us) H-video width (us) H-front porch (us)	79.976kHz 12.504(1688 dots) 1.067(144 dots) 1.837(248 dots) 9.481(1280 dots) 0.119(16 dots)	75 13.333(2160 dots) 1.185(192 dots) 1.877(304 dots) 9.877(1600 dots) 0.395(64 dots)	65.29 15.316(2240 dots) 1.203(176 dots) 1.915(280 dots) 11.487(1680 dots) 0.711(104 dots)	
f v (Hz) V-total (ms) V-sync width (ms) V-back porch (ms) V-video width (ms) V-front porch (ms)	75.025Hz 13.329(1066 lines) 0.038(3 lines) 0.475(38 lines) 12.804(1024 lines) 0.012 (1 line)	60.000 16.667(1250 lines) 0.040(3 lines) 0.613(46 lines) 16.000(1200 lines) 0.013(1 lines)	59.954 16.679(1089 lines) 0.092(6 lines) 0.459(30 lines) 16.082(1050 lines) 0.046(3 lines)	
SYNC. H/V POLARITY	+/-	+/-	+/-	
SEP. SYNC	Y	Y	Y	

CLASS NO.		20.1" TFT UXGA LCD Monitor (HUDSON 7-200WP7)			8639 000 16908		
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		BRAND : PHILIPS					
NAME	Jason Wang	SUPERS.	25	590	—	13	10
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- 3.3.3 Horizontal scanning  
Sync polarity : Positive or Negative  
Scanning frequency : 30 - 98 K Hz
- 3.3.4 Vertical scanning  
Sync polarity : Positive or Negative  
Scanning frequency : 56 - 76 Hz
- 3.4 Power input connection  
Power cord length : 1.8 M  
Power cord type : 3 leads power cord with protective earth plug.
- 3.5 Power management  
The monitor must comply with the Microsoft On Now specification, with two power management states, as defined by the VESA DPMS document. The monitor

Mode	H SYNC	V SYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	< 60 W	Green LED	With USB
Power-On	On	On	active	< 48 W	Green LED	Without USB
Off	Off	On	blanked	< 2 W	Amber LED	< 3 s
Off	On	Off	blanked	< 2 W	Amber LED	< 3 s
Off	Off	Off	blanked	< 2 W	Amber LED	< 3 s
DC Power Off			N/A	< 1W	LED Off	

- 3.6 Display identification
- 3.6.1 In accordance with VESA Display Channel Standard Ver.1.0 and having DDC 2B capability
- 3.6.2 In accordance with DVI requirement (DDWG digital Visual Interface revision 1.0) use DDC 2B and EDID 3.0 structure 2.0

#### 4.0 Visual characteristics

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## 4.1 Test conditions

Unless otherwise specified, this specification is defined under the following conditions.

- (1) Input signal : As defined in 3.3, 1600x 1200 non-interlaced mode (75K/60Hz), signal sources must have 75 ohm output impedance.
- (2) Luminance setting: controls to be set to 200 nits with full screen 70 % duty cycle white signal
- (3) Warm up: more than 30 minutes after power on with signal supplied.
- (4) Ambient light: 400 -- 600 lux.
- (5) Ambient temperature: 20 +/- 5 °C

## 4.2 Resolution:

Factory preset modes (15 modes)



Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)	Item	H.Freq. (KHz)	Mode	Resolutio n	V.Freq . (Hz)
1	31.469	IBM VGA 10H	640x350	70.086	9	48.363	VESA	1024x768	60.004
2	31.469	IBM VGA 3H	720x400	70.087	10	60.023	VESA	1024x768	75.029
3	31.469	IBM VGA 12H	640x480	59.940	11	68.700	MACINTOSH	1152x870	75.000
4	35.000	MACINTOSH	640x480	67.000	12	63.981	VESA	1280x1024	60.020
5	37.500	VESA	640x480	75.000	13	79.976	VESA	1280x1024	75.025
6	35.156	VESA	800x600	56.250	14	75.0	VESA	1600x1200	60
7	37.879	VESA	800x600	60.317	15	65.29	-	1680x1050	60.0
8	46.875	VESA	800x600	75.000					

Note: 1. Screen displays at 40 preset modes  
 2. Screen displays perfect picture at 15 factory-preset modes  
 3. Screen displays visible picture with OSD warning when input modes are other then 22 preset modes

## 4.3 Brightness: &gt;=300 nits (at panel color temperature, at center of the screen, set contrast

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and brightness at maximum. )

#### 4.4 Image size

##### 4.4.1 Actual display size

433.44 x 270.9mm

#### 4.5 Brightness uniformity

Set contrast at 100% and turn the brightness to get average above 250 nits (LPL), and 240 nits (AUO) nits at centre of the screen.

Apply the Fig 1; it should comply with the following formula:

Minimum luminance of nine points (brightness)

X100% (Min.)

Maximum luminance of nine points (brightness)

LM201W01-SLA1 (LPL)----70% (min.)

M201EW01 v0 (AUO)----70% (min.), 75% (typ.)

#### 4.6 Check Cross talk (S)

Apply Pattern 2. Set contrast and brightness at 100 %. Measure YA. Then output Pattern 3 and measure YB. the cross talk value :

$$\frac{\text{ABS} (\text{YA} - \text{YB})}{\text{YA}} \times 100\%$$

LM201W01-SLA1 (LPL)----1.8% (max)  
M201EW01 v0 (AUO)---- 1.5% (max.)

#### 4.7 White color adjustment

There are three factory preset white color 9300K, 6500K, sRGB.

Apply full gray64 pattern, with brightness in 100 % position and the contrast control at 50 % position.

The 1931 CIE Chromaticity (color triangle) diagram (x,y) coordinate for the screen center should be:

9300K CIE coordinates      X = 0.283 +/- 0.020  
                                  Y = 0.297 +/- 0.020



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6500K/ sRGB CIE coordinates    X = 0.313 +/- 0.020  
     Y = 0.329 +/- 0.020

## 5.0 Mechanical characteristics

### 5.1 Controls

- Front side:
  - DC power switch
  - OSD function key (OK)
  - UP
  - DOWN
  - RIGHT
  - LEFT
  - AUTO

Rear:

- D-SUB
- DVI-D
- Power cord socket

### 5.2 Unit dimension / Weight

Set dimension (incl. pedestal): 483(W) \* 402(H) \* 235(D) mm

Net weight : **8.6Kg** (Including I/F cable 240 g)

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### 5.3 Tilt and swivel base

Tilt angle : -5 ° to +25 °  
     Swivel angle : +/- 45 °

### 5.4 Transportation packages

#### 5.4.1 Shipping dimension/Weight

Carton dimension : 579(W) X 267(H) X 513(D) mm

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Gross weight : 10.7 KG

#### 5.4.2 Block unit / Palletization

<u>layers/ block</u>	<u>sets/ layer</u>	<u>sets/ block unit</u>
8	4	32

#### 6.0 Environmental characteristics

The following sections define the interference and susceptibility condition limits that might occur between external environment and the display device.

#### 6.1 Susceptibility of display to external environment

##### Operating

- Temperature : 0 to 40 degree C
- Humidity : 80% max
- Altitude : 0-3658m

##### Storage

- Temperature : -20 to 60 degree C
- Humidity : 95% max (< 40°C )
- Altitude : 0-12192m
- Air pressure : 300-1100 mBAR

Note: recommend at 5 to 35°C, Humidity less than 60 %

#### 6.2 Transportation tests

#### 6.3

Standard		Philips UAN-D1400	NSTA
Drop Test	Height	76.2cm(1~9.52kg) 61 cm (9.53~18.59kg)	76.2cm(1~9.52kg) 61 cm (9.53~18.59kg)
	Sequence	1 corner 3 faces After -10°C	1 corner 3 edge 6 face
	Test Result	Electrical function ok Mechanical function ok No serious damage on set appearance (Room temp. /-10°C, humidity 70 %)	
Vibration Test	Sequence	Packaging: 5-200 Hz 0.73 G 30 min. for each axis	Operating: 10-50-10 Hz 0.35 mm 30 min. for each axis
	Test Result	Electrical function ok Mechanical function ok No serious damage on set appearance	
Shock	For design evaluation only Operating		

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test

30 G, 16 m-sec, 6 cycles  
 Temperature : 23°C  
 Humidity : 60 %  
 Air pressure : 100 kpa  
 (According to DSD draft standard UAN-D636)

- 6.3 Display disturbances from external environment  
According to IEC 801-2 for ESD disturbances
- 6.4 Display disturbances to external environment
- 6.4.1 EMI  
EMI : C-tick, CE(Europe), FCC(USA), IC(Canada), VCCI(Japan), BSMI
- 7.0 Reliability
- 7.1 Mean Time Between Failures  
System MTBF (Excluding the LCD panel and CCFL): 50,000 hrs  
CCFL MTBF: 40,000 hrs
- 8.0 Quality assurance requirements
- 8.1 Acceptance test  
According to MIL-STD-105D Control II level
  - AQL: 0.65 (major)  
2.50 (minor)
  - (Please also refer to annual quality agreement)
  - Customer acceptance criteria: UAW0377/00
- 9.0 Serviceability  
The serviceability of this monitor should fulfill the requirements which are prescribed in UAW-0346 and must be checked with the check list UAT-0361.

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## 10. LCD PANEL CHARACTERISTICS REQUIREMENTS

LCD Panel Pixel Defect Requirement

	Acceptable Level
Bright Dot Defects	
1 lit subpixel	3
2 adjacent lit subpixels	1
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects	25mm or more
Bright dot defects within 20mm circle	3 or fewer
Total bright dot defects of all types	3
Dark Dot Defects	
1 dark subpixel	5
2 adjacent dark subpixels	2

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3 adjacent dark subpixels (one white pixel)	1
Distance between two black dot defects	15mm or more
Total black dot defects of all types	5
Total bright or black dot defects of all types	5

\*Note: 1 or 2 adjacent subpixel defects= 1 dot defect

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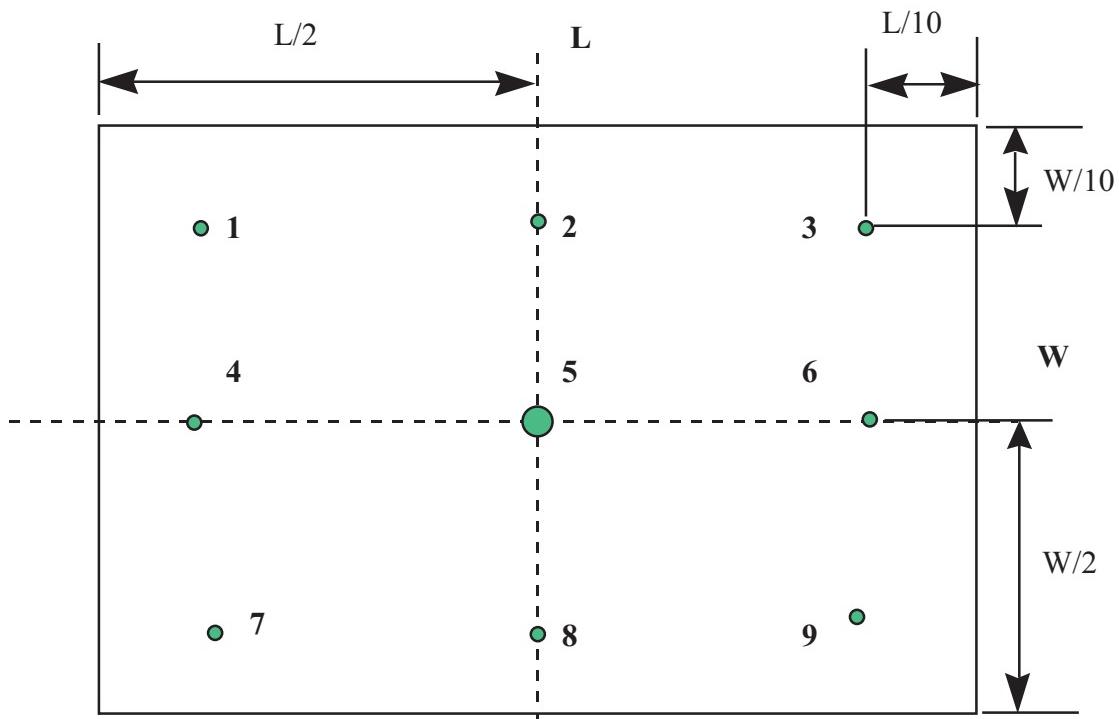


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Fig 1: Brightness Uniformity



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2838 100 05424



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Fig 2: Cross talk pattern

Gray level 46 (64 Gray level)

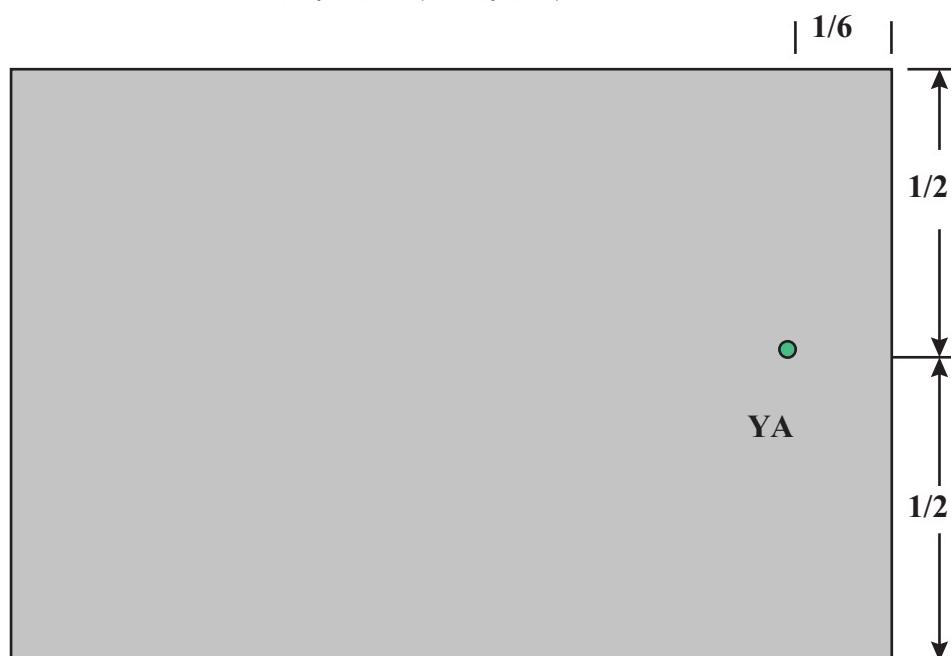
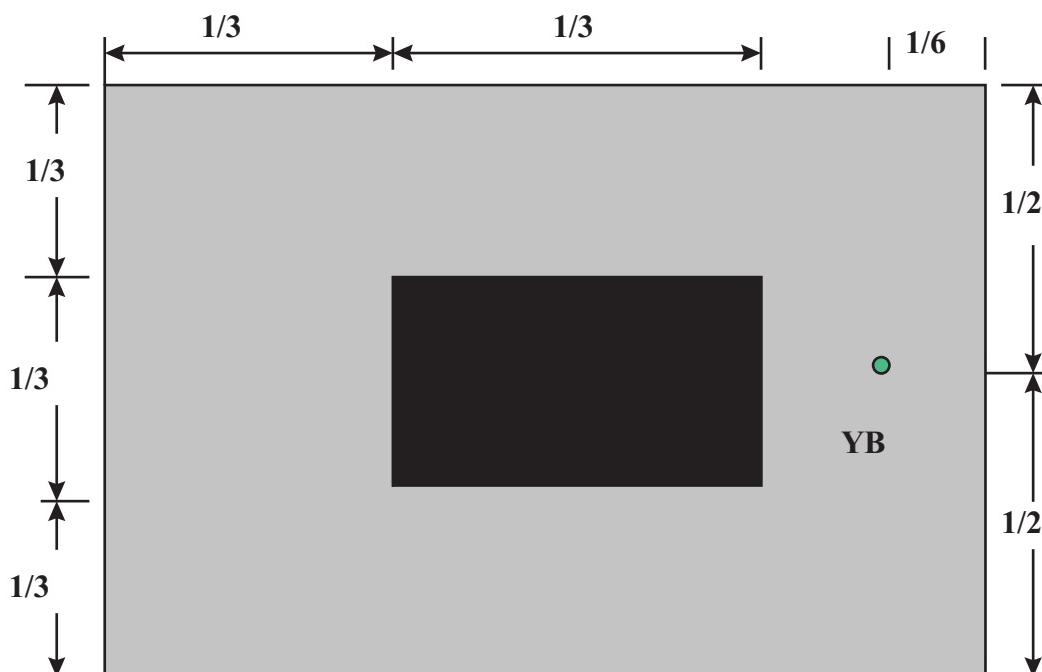


Fig 3: Cross-talk Pattern  
Center at Gray level 0 (Black)



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TY	CHECK	DATE 2006-02-16	Property of	PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-B.E.		
2838 100 05424						A4

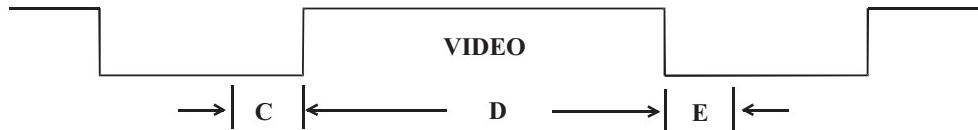


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## SEPARATE SYNC.



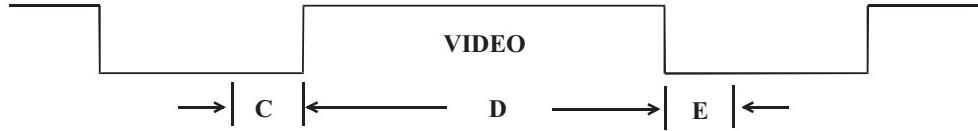
## HORIZONTAL



## VERTICAL



## COMPOSITE SYNC.



## HORIZONTAL



FIG-4 TIMING CHART -1

CLASS NO.	20.1" TFT UXGA LCD Monitor (HUDSON 7-200WP7)			8639 000 16908		
	TYPE : 200WP7ES/00					
	BRAND : PHILIPS					
2006-02-16	NAME	Jason Wang	SUPERS.	25	590	— 24 10 A4
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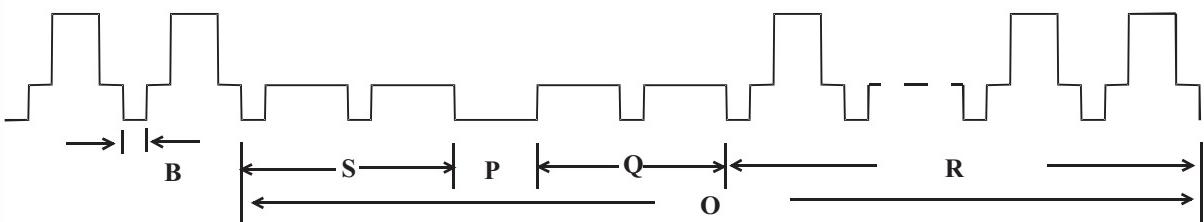


## **COMPOSITE SYNC. & VIDEO ( SYNC. ON GREEN )**

## HORIZONTAL

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## VERTICAL



## **FIG-5 TIMING CHART -2**

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## Recommended Parts List

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0004	313815761011	SUPER ERGO BASE ASSY
0030	313815761221	BEZEL ASSY-SILVER
0031	313815418091	BEZEL-SLIVER
0032	313815417771	BEZEL- DECO
0033	313815417781	CONTROL KNOB
0040	313815761001	BACK COVER ASSY-S
0041	313815417791	BACK COVER
0042	313815417811	MIDDLE COVER-SILVER
0043	313815133511	VESA PLATE
0051	313815138241	METAL FRAME
7201	932214526668	IC SM M24C02-WMN6 (ST00) R
7202	932214526668	IC SM M24C02-WMN6 (ST00) R
7351	313815867291	CPU IC ASSY
7351	932222343682	IC SM NT68F631ALG (NOVA) L
7353	313815867301	EEPROM IC ASSY
7353	932214725682	IC M24C16-WBN6P (ST00) L
7401	823827737015	SCALER IC NT68563HFG
7403	932220099685	IC SM LD1117AS18 (ST00) R
7405	932216733668	IC SM LD1117S33 (ST00) R
7501	933769900215	TRA SIG SM BC857C (PHSE) R
7502	933769900215	TRA SIG SM BC857C (PHSE) R
7503	932217440685	TRA SIG SM KRC102S (KECO) R
7504	932216638668	FET POW SM SI5441DC-E3 (VISH)R
7505	932216638668	FET POW SM SI5441DC-E3 (VISH)R
7506	932217440685	TRA SIG SM KRC102S (KECO) R
7507	932216733668	IC SM LD1117S33 (ST00) R
7508	932216638668	FET POW SM SI5441DC-E3 (VISH)R
7509	932217440685	TRA SIG SM KRC102S (KECO) R
7622	932217440685	TRA SIG SM KRC102S (KECO) R
7625	932216638668	FET POW SM SI5441DC-E3 (VISH)R
7631	932222352668	IC SM TPS54357PWP (T100) R
7651	932222162671	IC SM CY7C65640-LFXC (CYPR) Y
7671	932222269668	IC SM TPS2062DG4 (T100) R
7675	932222269668	IC SM TPS2062DG4 (T100) R

# Spare Parts List

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Model:200WP7ES/00(AUO Panel)

## Mechanical Parts

0004	313815761011	SUPER ERGO BASE ASSY
0030	313815761221	BEZEL ASSY-SILVER
0031	313815418091	BEZEL-SLIVER
0032	313815417771	BEZEL- DECO
0033	313815417781	CONTROL KNOB
0040	313815761001	BACK COVER ASSY-S
0041	313815417791	BACK COVER
0042	313815417811	MIDDLE COVER-SILVER
0043	313815133511	VESA PLATE
0051	313815138241	METAL FRAME
0053	313815321301	INSULATE PLATE
0080	313815759083	SHIELDING ASSY
0090	313815136711	AC PLATE
0095	313815136721	DSUB PLATE
0126	313815569471	RATING LABEL
0280	313800991971	PROCESS BOX
0290	313800992071	PROCESS BOX
0340	313815136703	SHIELDING
0341	313815421312	INSULATING PLATE
0502	313815641931	SLEEVE
1057	313815867411	FRAME+WIRE ASSY

## LCD Panel

1050	823827720701	TFT-LCD MOD M201EW01 V.0 A
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## Packing

0129	313810632613	PE BAG
0450	313815642281	CARTON-200WP
0451	313815642231	CUSHION - TOP
0452	313815642241	CUSHION - BUTTON
0453	313815641821	P.E. BAG
0508	313815642281	CARTON-200WP

## Accessory

0141	313815524341	QUICK SETUP GUIDE-200WP
0602	313811709411	E-D.F.U.
1056	823827732068	CBLE-130 30/115/30 334033AWG28
1060	313819871431	CORD SUB-D 15/1M8/15 D-SUB BK
1061	313818870471	MAINSCORD IEC 10A 1M8 DET BK
1063	313819872531	CORD USB A/1M8/USB B BK
1064	313819871471	CORD DVI 18+1/1M8/DVI 18+1 BK

## PCB ASSY

1051	313815867281	SCALER ASSY-200WP7 AUO
1052	313815865861	CONTROL ASSY
1054	313815867111	USB ASSY(200 WP7)
1055	823827732047	PSU OPENFR IPS60W(EADP-57BFAA)

## Miscellanea

0138	313815555711	HI-POT LABEL
0280	313800991971	PROCESS BOX
0291	313815569531	LABEL
0292	313815569531	LABEL
0615	313811709541	HEX CODE OF F/W(NO MATE REQ)
1098	243803100435	SOC IC V 8P F 2.54 DIL L
1201	242203300521	SOC DVI H 24P F 1.91DVI-D Y
1202	242202518053	SOC SUBD H 15P F BU 1216 B
1351	243854300079	RES XTL SM 12MHZ 32P SMD-49 R
1352	242202518947	CON V 4P M 2.50 64834 B
1354	242202518947	CON V 4P M 2.50 64834 B
1401	242202518804	CON V 30P M 1.25 SM 60948 R
1501	242202518825	CON V 13P M 2.00 63393 B
1505	242202518824	CON V 11P M 2.00 63391 B
1601	242202518896	CON H 6P M 2.00 63366 B
1608	823827732071	CABLE RING TERM/45/FAST AWG18
1609	823827732069	CABLE RING TERM/85/FAST AWG18
1610	243854300085	RES XTL SM 24MHZ 20P SMD-49 R
1651	242202518953	SOC USB V 4P F 2.0/2.5 5401 Y
1652	242202518955	SOC USB V 4P F 2.5 5411 Y
1653	242202518957	SOC USB V 8P F 2.0/2.5 5402 R
1654	242202518953	SOC USB V 4P F 2.0/2.5 5401 Y
1951	243812800196	SWI TACT H=5 GY 160G SKHHAM B
1952	243812800196	SWI TACT H=5 GY 160G SKHHAM B
1953	243812800196	SWI TACT H=5 GY 160G SKHHAM B
1954	243812800196	SWI TACT H=5 GY 160G SKHHAM B
1955	243812800196	SWI TACT H=5 GY 160G SKHHAM B
1956	243812800196	SWI TACT H=5 GY 160G SKHHAM B
1957	243812800196	SWI TACT H=5 GY 160G SKHHAM B
1960	243812800196	SWI TACT H=5 GY 160G SKHHAM B
1961	242202518897	CON H 7P M 2.00 63367 B
4444	313810610503	CD ROM - SERVICE MANUAL
4444	313810610504	SERVICE MANUAL
8061	823827732072	CBLE-023 13/390/7+6-017-016

PCB ASSY	Part Number	Description	QTY	Unit	Notes
1051	313815867281	SCALER ASSY-200WP7 AUO	1	PCB	
2201	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2202	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2203	223886715331	CER1 0603 NP0 50V 330P PM5 R	1	PCB	
2204	223886715331	CER1 0603 NP0 50V 330P PM5 R	1	PCB	
2205	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2214	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2215	223886715331	CER1 0603 NP0 50V 330P PM5 R	1	PCB	
2216	223886715331	CER1 0603 NP0 50V 330P PM5 R	1	PCB	
2217	223886715339	CER1 0603 NP0 50V 33P PM5 R	1	PCB	
2218	223886715221	CER1 0603 NP0 50V 220P PM5 R	1	PCB	
2219	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2221	223878615645	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2222	223878615645	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2224	223878615645	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2225	223878615645	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2227	223878615645	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2228	223878615645	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2229	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2241	223878615645	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2351	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2353	223886715229	CER1 0603 NP0 50V 22P PM5 R	1	PCB	
2354	223886715229	CER1 0603 NP0 50V 22P PM5 R	1	PCB	
2356	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2358	223886715101	CER1 0603 NP0 50V 100P PM5 R	1	PCB	
2359	823827736009	CHIP 4.7UF 25V X7R 1206	1	PCB	
2360	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2361	223886715101	CER1 0603 NP0 50V 100P PM5 R	1	PCB	
2364	223886715229	CER1 0603 NP0 50V 22P PM5 R	1	PCB	
2401	202203100205	ELCAP SM RVS 25V 47U PM20 R	1	PCB	
2402	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2404	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2406	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2413	202203100205	ELCAP SM RVS 25V 47U PM20 R	1	PCB	
2414	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2416	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2417	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2419	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2420	823827736009	CHIP 4.7UF 25V X7R 1206	1	PCB	
2422	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2423	223827736009	CHIP 4.7UF 25V X7R 1206	1	PCB	
2424	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2425	202203100205	ELCAP SM RVS 25V 47U PM20 R	1	PCB	
2427	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2428	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2431	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2443	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2444	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2446	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2451	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2452	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2455	823827736009	CHIP 4.7UF 25V X7R 1206	1	PCB	
2457	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2458	223827736009	CHIP 4.7UF 25V X7R 1206	1	PCB	
2459	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2501	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2502	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2503	202203100205	ELCAP SM RVS 25V 47U PM20 R	1	PCB	
2504	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2505	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2506	202203100205	ELCAP SM RVS 25V 47U PM20 R	1	PCB	
2510	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2511	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2515	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2516	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2517	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2518	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2519	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2520	223878615649	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2521	202203100205	ELCAP SM RVS 25V 47U PM20 R	1	PCB	
2522	223878615649	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2523	223878615649	CER2 0603 X7R 16V 100N PM10 R	1	PCB	
2524	223878615649	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2525	202203100205	ELCAP SM RVS 25V 47U PM20 R	1	PCB	
2526	223878615649	CER2 0603 X7R 16V 47N PM10 R	1	PCB	
2527	202203100205	ELCAP SM RVS 25V 47U PM20 R	1	PCB	
2529	823827736009	CHIP 4.7UF 25V X7R 1206	1	PCB	
2530	2				

## Spare Parts List

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3540	232270296001	RST SM 0603 JUMP. MAX 0R05 R	2683	223886715279	CER1 0603 NP0 50V 27P PM5 R
5201	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2684	223878615649	CER2 0603 X7R 16V 100N PM10 R
5202	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2685	223878615649	CER2 0603 X7R 16V 100N PM10 R
5204	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2691	223878615649	CER2 0603 X7R 16V 100N PM10 R
5351	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2692	223878615649	CER2 0603 X7R 16V 100N PM10 R
5401	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2693	223878615649	CER2 0603 X7R 16V 100N PM10 R
5402	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2694	223878615649	CER2 0603 X7R 16V 100N PM10 R
5403	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2695	223878615649	CER2 0603 X7R 16V 100N PM10 R
5407	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2696	223878615649	CER2 0603 X7R 16V 100N PM10 R
5409	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2697	223878615649	CER2 0603 X7R 16V 100N PM10 R
5410	242254944196	IND FXD 0805 EMI 100MHZ 120R R	2698	223878615649	CER2 0603 X7R 16V 100N PM10 R
5413	242254945579	IND FXD 1206 EMI 100MHZ 100R R	2699	223878615649	CER2 0603 X7R 16V 100N PM10 R
5501	242254945579	IND FXD 1206 EMI 100MHZ 100R R			
5502	242254945579	IND FXD 1206 EMI 100MHZ 100R R			
6201	933913910115	DIO SIG SM BAS32L (PHSE) R	3622	232270260103	RST SM 0603 RC21 10K PM5 R
6202	933913910115	DIO SIG SM BAS32L (PHSE) R	3623	212211805683	RST SM 0603 RC0603 100K PM5 R
6203	933913910115	DIO SIG SM BAS32L (PHSE) R	3634	232270260202	RST SM 0603 RC21 2K PM5 R
6204	933913910115	DIO SIG SM BAS32L (PHSE) R	3681	212211805672	RST SM 0603 RC0603 15K PM5 R
6401	932220675682	DIO REC M100AL-5301-E3 (VISH)R	3682	212211805683	RST SM 0603 RC0603 100K PM5 R
6402	932220675682	DIO REC M100AL-5301-E3 (VISH)R	3683	212211805672	RST SM 0603 RC0603 15K PM5 R
6403	932220628682	DIO REC SB140AL-5301E3 (VISH)R	3685	212211805672	RST SM 0603 RC0603 15K PM5 R
7201	932214526668	IC SM M24C02-WMN6 (ST00) R	3687	212211805672	RST SM 0603 RC0603 15K PM5 R
7202	932214526668	IC SM M24C02-WMN6 (ST00) R	3689	212211805672	RST SM 0603 RC0603 15K PM5 R
7351	313815867291	CPU IC ASSY	3691	212211805672	RST SM 0603 RC0603 15K PM5 R
7351	932222343682	IC SM NT68F631ALG (NOVA) L	3692	212211805672	RST SM 0603 RC0603 15K PM5 R
7353	313815867301	EEPROM IC ASSY	3693	212211805672	RST SM 0603 RC0603 15K PM5 R
7353	932214725682	IC M24C16-WBN6P (ST00) L	4631	232270296001	RST SM 0603 JUMP. MAX 0R05 R
7401	823827737015	SCALER IC NT68563HFG			
7403	932220099685	IC SM LD1117AS18 (ST00) R	5601	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7405	932216733668	IC SM LD1117S33 (ST00) R	5602	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7501	933769900215	TRA SIG SM BC857C (PHSE) R	5603	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7502	933769900215	TRA SIG SM BC857C (PHSE) R	5621	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7503	932217440685	TRA SIG SM KRC102S (KECO) R	5622	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7504	932216638668	FET POW SM SI5441DC-E3 (VISH)R	5634	313818875771	COI CHOKE 35UH 82M OHM DR10X8
7505	932216638668	FET POW SM SI5441DC-E3 (VISH)R	5651	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7506	932217440685	TRA SIG SM KRC102S (KECO) R	5653	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7507	932216733668	IC SM LD1117S33 (ST00) R	5655	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7508	932216638668	FET POW SM SI5441DC-E3 (VISH)R	5657	242254900126	IND FXD 0805 EMI 100MHZ 120R R
7509	932217440685	TRA SIG SM KRC102S (KECO) R	5659	242254900126	IND FXD 0805 EMI 100MHZ 120R R
1052	313815865861	CONTROL ASSY	6634	932221745685	DIO REC SM SSA34-E3 (VISH) R
2951	223858619812	CER2 0603 Y5V 50V 100N P8020 R	6635	932221745685	DIO REC SM SSA34-E3 (VISH) R
2952	223858619812	CER2 0603 Y5V 50V 100N P8020 R	6662	933913910115	DIO SIG SM BAS32L (PHSE) R
3951	232270260101	RST SM 0603 RC21 100R PM5 R	7622	932217440685	TRA SIG SM KRC102S (KECO) R
3952	232270260473	RST SM 0603 RC21 47K PM5 R	7625	932216638668	FET POW SM SI5441DC-E3 (VISH)R
3953	232270260103	RST SM 0603 RC21 10K PM5 R	7631	932222352668	IC SM TPS54357WWP (T100) R
3954	212211805656	RST SM 0603 RC0603 1K PM5 R	7651	932222162671	IC SM CY7C65640-LFXC (CYPR) Y
3955	232270260473	RST SM 0603 RC21 47K PM5 R	7671	932222269668	IC SM TPS2062DG4 (T100) R
3956	232270260103	RST SM 0603 RC21 10K PM5 R	7675	932222269668	IC SM TPS2062DG4 (T100) R
3957	212211805656	RST SM 0603 RC0603 1K PM5 R			
6951	932214603682	LED VS L-3WYGW (KIEL) B			
1054	313815867111	USB ASSY(200 WP7)			
2601	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2603	202203100179	ELCAP SM HV 25V 10U PM20 R			
2604	223858619812	CER2 0603 Y5V 50V 100N P8020 R			
2621	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2623	223858615636	CER2 0603 X7R 50V 10N PM10 R			
2625	22224119876	CER2 1206 Y5V 10V 10U P8020 R			
2631	202202000963	ELCAP SM LV 25V 100U PM20 R			
2633	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2634	202202000963	ELCAP SM LV 25V 100U PM20 R			
2635	223878615643	CER2 0603 X7R 16V 33N PM10 R			
2636	222278015663	CER2 0805 X7R 16V 1U PM10 R			
2651	202001293803	ELCAP SM RV2 16V 100U PM20 R			
2652	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2655	202001293803	ELCAP SM RV2 16V 100U PM20 R			
2656	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2661	202001293803	ELCAP SM RV2 16V 100U PM20 R			
2662	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2665	202001293803	ELCAP SM RV2 16V 100U PM20 R			
2666	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2671	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2675	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2680	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2681	223878615649	CER2 0603 X7R 16V 100N PM10 R			
2682	223886715279	CER1 0603 NP0 50V 27P PM5 R			

According to the ECO CA005895, the panel has been replaced by MOD M201EW01 V.3, the updated parts as below:

Action	Item	12NC	Description
From	1050	823827720701	TFT-LCD MOD M201EW01 V.0 A
To	1050	823827720911	TFT-LCD MOD M201EW01 V.3
New	3533	212211805631	RST SM 0603 JUMP. MAX 0R05 R
		232270296001	RST SM 0603 JUMP. MAX 0R05 R
Del	3537	212211805631	RST SM 0603 JUMP. MAX 0R05 R
		232270296001	RST SM 0603 JUMP. MAX 0R05 R

# Spare Parts List

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Model:200WP7ES/01(LPL Panel) 12NC: 8639 000 17096

## Mechanical Parts

4	313815761011	SUPER ERGO BASE ASSY
30	313815761221	BEZEL ASSY-SILVER
31	313815418091	BEZEL-SLIVER
32	313815417771	BEZEL- DECO
33	313815417781	CONTROL KNOB
40	313815761001	BACK COVER ASSY-S
41	313815417791	BACK COVER
42	313815417811	MIDDLE COVER-SILVER
43	313815133511	VESA PLATE
44	313815162071	CONTACT SPRING
51	313815138241	METAL FRAME
80	313815759083	SHIELDING ASSY
116	313810440571	HOUSING COVER
340	313815136703	SHIELDING
450	313815642281	CARTON-200WP
1057	313815867411	FRAME+WIRE ASSY

## Packing Parts

450	313815642281	CARTON-200WP
451	313815642231	CUSHION - TOP
452	313815642241	CUSHION - BUTTON
453	313815641821	P.E. BAG

## Accessory

602	313811709571	E-D.F.U.
1060	313818873992	CORD SUB-D 15/1M8/15 SUB-D M/
1061	313818870471	MAINSCORD IEC 10A 1M8 DET B
1063	313819872531	CORD USB A/1M8/USB B BK
1064	313819871471	CORD DVI 18+1/1M8/DVI 18+1 BK

## miscellanea

341	313815421312	INSULATING PLATE
1056	823827732068	CBLE-130 30/115/30 334033AWG2
8061	823827732072	CBLE-023 13/390/7+6-017-016

## LCD Panel

1050	823827718711	LCD LM201W01-SLA1
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## PCB Assy

1051	313815865851	SCALER ASSY(200WP7)
1052	313815865861	CONTROL ASSY
1054	313815867111	USB ASSY(200 WP7)
1055	823827732047	PSU OPENFR IPS60W(EADP-57BFA

## PCB Assy

1051	313815865851	SCALER ASSY(200WP7)
various		
291	313815569901	LABEL
292	313815569901	LABEL
615	313811709701	HEX CODE OF F/W(NO MATL REQ)
1098	243803100435	SOC IC V 8P F 2.54 DL
1099	243803100437	SOC IC V 44P F 1.27 PLCC
1201	2422025300521	SOC DVI H 24P F 1.91VDI-D
1202	242202518053	SOC SUBLD H 15P F BU 1216
1351	243854300079	RES XTL SM 12MHZ 32P SMD-49
1352	242202518947	CON V 4P M 2.50 64834
1401	243854300093	RES XTL SM 14M3181 18P SMD49
1402	242202518804	CON V 30P M 1.25 SM 60948
1501	242202518825	CON V 13P M 2.00 63393
1505	242202518824	CON V 11P M 2.00 63391



2201	223878615649	CER2 0603 X7R 16V 100N PM10
2202	223878615649	CER2 0603 X7R 16V 100N PM10
2203	223886715331	CER1 0603 NPO 50V 330P PM5
2204	223886715331	CER1 0603 NPO 50V 330P PM5
2205	223878615649	CER2 0603 X7R 16V 100N PM10
2214	223878615649	CER2 0603 X7R 16V 100N PM10
2215	223886715331	CER1 0603 NPO 50V 330P PM5
2216	223886715331	CER1 0603 NPO 50V 330P PM5
2217	223886715339	CER1 0603 NPO 50V 33P PM5
2218	223886715221	CER1 0603 NPO 50V 220P PM5
2219	223878615649	CER2 0603 X7R 16V 100N PM10
2221	223878615645	CER2 0603 X7R 16V 47N PM10
2222	223858615623	CER2 0603 X7R 50V 1N PM10
2224	223878615645	CER2 0603 X7R 16V 47N PM10
2225	223878615645	CER2 0603 X7R 16V 47N PM10

2227	223878615645	CER2 0603 X7R 16V 47N PM10
2228	223878615645	CER2 0603 X7R 16V 47N PM10
2229	223878615649	CER2 0603 X7R 16V 100N PM10
2241	223878615645	CER2 0603 X7R 16V 47N PM10
2302	223878615649	CER2 0603 X7R 16V 100N PM10
2303	202203100198	ELCAP SM HV 16V 22U PM20
2304	223878615649	CER2 0603 X7R 16V 100N PM10
2305	223878615649	CER2 0603 X7R 16V 100N PM10
2306	223878615649	CER2 0603 X7R 16V 100N PM10
2307	223878615649	CER2 0603 X7R 16V 100N PM10
2308	223878615649	CER2 0603 X7R 16V 100N PM10
2309	223878615649	CER2 0603 X7R 16V 100N PM10
2310	223878615649	CER2 0603 X7R 16V 100N PM10
2311	223878615649	CER2 0603 X7R 16V 100N PM10
2312	202203100198	ELCAP SM HV 16V 22U PM20
2313	223878615649	CER2 0603 X7R 16V 100N PM10
2314	223878615649	CER2 0603 X7R 16V 100N PM10
2315	223878615649	CER2 0603 X7R 16V 100N PM10
2316	223878615649	CER2 0603 X7R 16V 100N PM10
2317	223878615649	CER2 0603 X7R 16V 100N PM10
2318	223878615649	CER2 0603 X7R 16V 100N PM10
2319	223878615649	CER2 0603 X7R 16V 100N PM10
2320	223878615649	CER2 0603 X7R 16V 100N PM10
2321	223878615649	CER2 0603 X7R 16V 100N PM10
2322	223878615649	CER2 0603 X7R 16V 100N PM10
2323	223878615649	CER2 0603 X7R 16V 100N PM10
2324	223878615649	CER2 0603 X7R 16V 100N PM10
2325	223878615649	CER2 0603 X7R 16V 100N PM10
2326	223878615649	CER2 0603 X7R 16V 100N PM10
2327	223878615649	CER2 0603 X7R 16V 100N PM10
2328	223878615649	CER2 0603 X7R 16V 100N PM10
2329	223878615649	CER2 0603 X7R 16V 100N PM10
2330	223858615636	CER2 0603 X7R 50V 10N PM10
2332	823827736009	CHIP 4.7UF 25V X7R 1206
2333	823827736009	CHIP 4.7UF 25V X7R 1206
2334	223878615649	CER2 0603 X7R 16V 100N PM10
2351	22386715229	CER1 0603 NPO 50V 22P PM5
2355	22386715229	CER1 0603 NPO 50V 22P PM5
2356	223878615649	CER2 0603 X7R 16V 100N PM10
2358	22386715101	CER1 0603 NPO 50V 100P PM5
2359	823827736009	CHIP 4.7UF 25V X7R 1206
2360	223878615649	CER2 0603 X7R 16V 100N PM10
2361	223886715101	CER1 0603 NPO 50V 100P PM5
2401	202203100205	ELCAP SM RVS 25V 47U PM20
2402	223878615649	CER2 0603 X7R 16V 100N PM10
2403	823827736009	CHIP 4.7UF 25V X7R 1206
2404	223878615649	CER2 0603 X7R 16V 100N PM10
2405	823827736009	CHIP 4.7UF 25V X7R 1206
2406	223878615649	CER2 0603 X7R 16V 100N PM10
2407	823827736009	CHIP 4.7UF 25V X7R 1206
2408	223878615649	CER2 0603 X7R 16V 100N PM10
2409	823827736009	CHIP 4.7UF 25V X7R 1206
2410	223878615649	CER2 0603 X7R 16V 100N PM10
2411	823827736009	CHIP 4.7UF 25V X7R 1206
2412	223878615649	CER2 0603 X7R 16V 100N PM10
2413	202203100205	ELCAP SM RVS 25V 47U PM20
2414	223878615649	CER2 0603 X7R 16V 100N PM10
2415	823827736009	CHIP 4.7UF 25V X7R 1206
2416	223878615649	CER2 0603 X7R 16V 100N PM10
2417	223878615649	CER2 0603 X7R 16V 100N PM10
2419	223878615649	CER2 0603 X7R 16V 100N PM10
2420	823827736009	CHIP 4.7UF 25V X7R 1206
2421	823827736009	CHIP 4.7UF 25V X7R 1206
2422	223878615649	CER2 0603 X7R 16V 100N PM10
2423	823827736009	CHIP 4.7UF 25V X7R 1206
2424	223878615649	CER2 0603 X7R 16V 100N PM10
2425	223878615649	CER2 0603 X7R 16V 100N PM10
2426	223878615649	CER2 0603 X7R 16V 100N PM10
2427	223878615649	CER2 0603 X7R 16V 100N PM10
2428	223878615649	CER2 0603 X7R 16V 100N PM10
2429	223878615649	CER2 0603 X7R 16V 100N PM10
2430	223878615649	CER2 0603 X7R 16V 100N PM10
2431	223878615649	CER2 0603 X7R 16V 100N PM10
2432	823827736009	CHIP 4.7UF 25V X7R 1206
2433	823827736009	CHIP 4.7UF 25V X7R 1206
2434	223878615649	CER2 0603 X7R 16V 100N PM10
2435	223878615649	CER2 0603 X7R 16V 100N PM10
2436	223878615649	CER2 0603 X7R 16V 100N PM10
2437	223878615649	CER2 0603 X7R 16V 100N PM10
2438	223878615649	CER2 0603 X7R 16V 100N PM10
2439	223878615649	CER2 0603 X7R 16V 100N PM10
2440	223878615649	CER2 0603 X7R 16V 100N PM10
2441	223878615649	CER2 0603 X7R 16V 100N PM10
2442	223878615649	CER2 0603 X7R 16V 100N PM10
2443	223878615649	CER2 0603 X7R 16V 100N PM10
2444	223878615649	CER2 0603 X7R 16V 100N PM10
2445	223878615649	CER2 0603 X7R 16V 100N PM10
2446	223878615649	CER2 0603 X7R 16V 100N PM10
2447	223886715339	CER1 0603 NPO 50V 33P PM5
2448	223886715339	CER1 0603 NPO 50V 33P PM5
2449	223886715339	CER1 0603 NPO 50V 33P PM5
2450	223886715339	CER1 0603 NPO 50V 33P PM5
2451	223878615649	CER2 0603 X7R 16V 100N PM10
2452	223878615649	CER2 0603 X7R 16V 100N PM10
2453	223878615649	CER2 0603 X7R 16V 100N PM10
2454	223878615649	CER2 0603 X7R 16V 100N PM10
2455	223878615649	CER2 0603 X7R 16V 100N PM10
2456	223827736009	CHIP 4.7UF 25V X7R 1206
2457	223878615649	CER2 0603 X7R 16V 100N PM10
2458	823827736009	CHIP 4.7UF 25V X7R 1206</td

# Spare Parts List

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3305	212211805637	RST SM 0603 RC0603 22R PM5	5204	242254945582	IND FXD 0805 EMI 100MHZ 300R	1652	242202518955	SOC USB V 4P F 2.5 5411
3306	232270260101	RST SM 0603 RC21 100R PM5	5301	242254945582	IND FXD 0805 EMI 100MHZ 300R	1653	242202518957	SOC USB V 8P F 2.0/2.5 5402
3307	232270260101	RST SM 0603 RC21 100R PM5	5302	242254945582	IND FXD 0805 EMI 100MHZ 300R	1654	242202518953	SOC USB V 4P F 2.0/2.5 5401
3308	232270260101	RST SM 0603 RC21 100R PM5	5351	242254945582	IND FXD 0805 EMI 100MHZ 300R			
3309	232270260101	RST SM 0603 RC21 100R PM5	5401	242254945582	IND FXD 0805 EMI 100MHZ 300R	2601	223878615649	CER2 0603 X7R 16V 100N PM10
3310	232270260101	RST SM 0603 RC21 100R PM5	5402	242254945582	IND FXD 0805 EMI 100MHZ 300R	2603	202203100179	ELCAP SM HV 25V 10U PM20
3311	232270260101	RST SM 0603 RC21 100R PM5	5403	242254945582	IND FXD 0805 EMI 100MHZ 300R	2604	223858619812	CER2 0603 Y5V 50V 100N P8020
3312	232270260101	RST SM 0603 RC21 100R PM5	5404	242254945582	IND FXD 0805 EMI 100MHZ 300R	2621	223878615649	CER2 0603 X7R 16V 100N PM10
3313	232270260101	RST SM 0603 RC21 100R PM5	5405	242254945582	IND FXD 0805 EMI 100MHZ 300R	2623	223858615636	CER2 0603 X7R 50V 10N PM10
3314	235003510101	RST NETW SM ARV24 4X100R PM5	5406	242254945582	IND FXD 0805 EMI 100MHZ 300R	2625	222224119876	CER2 1206 Y5V 10V 10U P8020
3315	235003510101	RST NETW SM ARV24 4X100R PM5	5407	242254945582	IND FXD 0805 EMI 100MHZ 300R	2631	202202000963	ELCAP SM LV 25V 100U PM20
3316	235003510101	RST NETW SM ARV24 4X100R PM5	5409	242254945582	IND FXD 0805 EMI 100MHZ 300R	2633	223878615649	CER2 0603 X7R 16V 100N PM10
3317	235003510101	RST NETW SM ARV24 4X100R PM5	5410	242254945582	IND FXD 0805 EMI 100MHZ 300R	2634	202202000963	ELCAP SM LV 25V 100U PM20
3318	235003510101	RST NETW SM ARV24 4X100R PM5	5412	242254945582	IND FXD 0805 EMI 100MHZ 300R	2635	223878615643	CER2 0603 X7R 16V 33N PM10
3319	235003510101	RST NETW SM ARV24 4X100R PM5	5413	242254945579	IND FXD 1206 EMI 100MHZ 100R	2636	222278015663	CER2 0805 X7R 16V 1U PM10
3320	235003510101	RST NETW SM ARV24 4X100R PM5	5414	242254945579	IND FXD 1206 EMI 100MHZ 100R	2651	200201293803	ELCAP SM RV2 16V 100U PM20
3321	235003510101	RST NETW SM ARV24 4X100R PM5	5416	242254945579	IND FXD 1206 EMI 100MHZ 100R	2652	223878615649	CER2 0603 X7R 16V 100N PM10
3322	212211805637	RST SM 0603 RC0603 22R PM5	5501	242254945579	IND FXD 1206 EMI 100MHZ 100R	2655	202001293803	ELCAP SM RV2 16V 100U PM20
3323	212211805637	RST SM 0603 RC0603 22R PM5	5502	242254945579	IND FXD 1206 EMI 100MHZ 100R	2656	223878615649	CER2 0603 X7R 16V 100N PM10
3351	212211805689	RST SM 0603 RC0603 1M PM5				2661	200201293803	ELCAP SM RV2 16V 100U PM20
3352	232270260101	RST SM 0603 RC21 100R PM5	6201	933913910115	DIO SIG SM BAS32L (PHSE)	2662	223878615649	CER2 0603 X7R 16V 100N PM10
3353	232270260103	RST SM 0603 RC21 10K PM5	6202	933913910115	DIO SIG SM BAS32L (PHSE)	2665	202001293803	ELCAP SM RV2 16V 100U PM20
3354	232270260101	RST SM 0603 RC21 100R PM5	6203	933913910115	DIO SIG SM BAS32L (PHSE)	2666	223878615649	CER2 0603 X7R 16V 100N PM10
3355	232270260103	RST SM 0603 RC21 10K PM5	6204	933913910115	DIO SIG SM BAS32L (PHSE)	2671	223878615649	CER2 0603 X7R 16V 100N PM10
3359	232270260101	RST SM 0603 RC21 100R PM5	6401	932220675682	DIO REC M100AL-5301-E3 (VISH)	2675	223878615649	CER2 0603 X7R 16V 100N PM10
3360	232270260103	RST SM 0603 RC21 10K PM5	6402	932220675682	DIO REC M100AL-5301-E3 (VISH)	2680	223878615649	CER2 0603 X7R 16V 100N PM10
3361	232270260103	RST SM 0603 RC21 10K PM5	6403	932220628682	DIO REC SB140AL-5301E3 (VISH)	2681	223878615649	CER2 0603 X7R 16V 100N PM10
3364	232270260103	RST SM 0603 RC21 10K PM5				2682	223886715279	CER1 0603 NP0 50V 27P PM5
3365	232270260103	RST SM 0603 RC21 10K PM5	7201	932216972682	IC SM AT24C02N-10SC-2.7(ATME)	2683	223886715279	CER1 0603 NP0 50V 27P PM5
3366	232270260103	RST SM 0603 RC21 10K PM5	7202	932216972682	IC SM AT24C02N-10SC-2.7(ATME)	2684	223878615649	CER2 0603 X7R 16V 100N PM10
3367	232270260103	RST SM 0603 RC21 10K PM5	7301	932222926761	IC SM K4D263238G-VC36 (SMGK)	2685	223878615649	CER2 0603 X7R 16V 100N PM10
3368	232270260101	RST SM 0603 RC21 100R PM5	7302	932216732668	IC SM LD1117S25 (ST00)	2691	223878615649	CER2 0603 X7R 16V 100N PM10
3369	232270260101	RST SM 0603 RC21 100R PM5	7351	313815867041	CPU IC ASSY-LPL(7351)	2692	223878615649	CER2 0603 X7R 16V 100N PM10
3370	232270260103	RST SM 0603 RC21 10K PM5	7351	932223243682	IC SM NT68F631ALG (NOVA)	2693	223878615649	CER2 0603 X7R 16V 100N PM10
3371	232270260103	RST SM 0603 RC21 10K PM5	7353	313815867051	EEPROM IC ASSY-LPL(7353)	2694	223878615649	CER2 0603 X7R 16V 100N PM10
3372	232270260103	RST SM 0603 RC21 10K PM5	7353	932214725682	IC M24C16-WBN6P (ST00)	2695	223878615649	CER2 0603 X7R 16V 100N PM10
3373	232270260101	RST SM 0603 RC21 100R PM5	7401	823827716351	SCALER IC	2696	223878615649	CER2 0603 X7R 16V 100N PM10
3374	232270260101	RST SM 0603 RC21 100R PM5	7403	932220099685	IC SM LD1117AS18 (ST00)	2697	223878615649	CER2 0603 X7R 16V 100N PM10
3379	232270260101	RST SM 0603 RC21 100R PM5	7404	932216732668	IC SM LD1117S25 (ST00)	2698	223878615649	CER2 0603 X7R 16V 100N PM10
3380	232270260101	RST SM 0603 RC21 100R PM5	7405	932216733668	IC SM LD1117S33 (ST00)	2699	223878615649	CER2 0603 X7R 16V 100N PM10
3382	232270260103	RST SM 0603 RC21 10K PM5	7501	933769900215	TRA SIG SM BC857C (PHSE)			
3391	232270296001	RST SM 0603 JUMP. MAX 0R05	7502	933769900215	TRA SIG SM BC857C (PHSE)	3622	232270260103	RST SM 0603 RC21 10K PM5
3392	232270296001	RST SM 0603 JUMP. MAX 0R05	7503	932217440685	TRA SIG SM KRC102S (KECO)	3623	212211805683	RST SM 0603 RC0603 100K PM5
3401	232270463901	RST SM 0603 RC22H 390R PM1	7504	932216638668	FET POW SM SI5441DC-E3 (VISH)	3634	232270260202	RST SM 0603 RC21 2K PM5
3402	232270260101	RST SM 0603 RC21 100R PM5	7505	932216733668	IC SM LD1117S33 (ST00)	3681	212211805672	RST SM 0603 RC0603 15K PM5
3403	212211805637	RST SM 0603 RC0603 22R PM5	7507	932216733668	IC SM LD1117S33 (ST00)	3682	212211805683	RST SM 0603 RC0603 100K PM5
3405	232270260103	RST SM 0603 RC21 10K PM5	7509	932216638668	FET POW SM SI5441DC-E3 (VISH)	3683	212211805672	RST SM 0603 RC0603 15K PM5
3408	212211805637	RST SM 0603 RC0603 22R PM5	7510	932216638668	FET POW SM SI5441DC-E3 (VISH)	3685	212211805672	RST SM 0603 RC0603 15K PM5
3409	212211805637	RST SM 0603 RC0603 22R PM5	7511	932217440685	TRA SIG SM KRC102S (KECO)	3687	212211805672	RST SM 0603 RC0603 15K PM5
3410	212211805637	RST SM 0603 RC0603 22R PM5	7512	932217440685	TRA SIG SM KRC102S (KECO)	3689	212211805672	RST SM 0603 RC0603 15K PM5
3411	212211805637	RST SM 0603 RC0603 22R PM5				3691	212211805672	RST SM 0603 RC0603 15K PM5
3412	212211805637	RST SM 0603 RC0603 22R PM5	1052	313815865861	CONTROL ASSY	3692	212211805672	RST SM 0603 RC0603 15K PM5
3413	212211805656	RST SM 0603 RC0603 1K PM5				3693	212211805672	RST SM 0603 RC0603 15K PM5
3414	232270260122	RST SM 0603 RC21 1K2 PM5	various			4631	232270296001	RST SM 0603 JUMP. MAX 0R05
3416	232270260101	RST SM 0603 RC21 100R PM5	1951	243812800196	SWI TACT H=5 GY 160G SKHHAM	5601	242254900126	IND FXD 0805 EMI 100MHZ 120R
3501	232270260479	RST SM 0603 RC21 47R PM5	1952	243812800196	SWI TACT H=5 GY 160G SKHHAM	5602	242254900126	IND FXD 0805 EMI 100MHZ 120R
3502	232270260479	RST SM 0603 RC21 47R PM5	1953	243812800196	SWI TACT H=5 GY 160G SKHHAM	5603	242254900126	IND FXD 0805 EMI 100MHZ 120R
3503	232270260479	RST SM 0603 RC21 47R PM5	1954	243812800196	SWI TACT H=5 GY 160G SKHHAM	5621	242254900126	IND FXD 0805 EMI 100MHZ 120R
3504	232270260103	RST SM 0603 RC21 10K PM5	1955	243812800196	SWI TACT H=5 GY 160G SKHHAM	5622	242254900126	IND FXD 0805 EMI 100MHZ 120R
3506	232270260101	RST SM 0603 RC21 100R PM5	1956	243812800196	SWI TACT H=5 GY 160G SKHHAM	5634	313818875771	COI CHOKE 35UH 82M OHM DR10X8
3507	232270260101	RST SM 0603 RC21 100R PM5	1957	243812800196	SWI TACT H=5 GY 160G SKHHAM	5651	242254900126	IND FXD 0805 EMI 100MHZ 120R
3508	232270260101	RST SM 0603 RC21 100R PM5	1960	243812800196	SWI TACT H=5 GY 160G SKHHAM	5653	242254900126	IND FXD 0805 EMI 100MHZ 120R
3509	232270260221	RST SM 0603 RC21 220R PM5	1961	242202518897	CON H 7P M 2.00 63367	5655	242254900126	IND FXD 0805 EMI 100MHZ 120R
3510	232270260103	RST SM 0603 RC21 10K PM5				5657	242254900126	IND FXD 0805 EMI 100MHZ 120R
3511	232270260221	RST SM 0603 RC21 220R PM5	2951	223858619812	CER2 0603 Y5V 50V 100N P8020	5659	242254900126	IND FXD 0805 EMI 100MHZ 120R
3512	232270260103	RST SM 0603 RC21 10K PM5	2952	223858619812	CER2 0603 Y5V 50V 100N P8020			
3515	232270260103	RST SM 0603 RC21 10K PM5	3951	232270260101	RST SM 0603 RC21 100R PM5	6634	932221745685	DIO REC SM SSA34-E3 (VISH)
3516	232270260103	RST SM 0603 RC21 10K PM5	3952	232270260473	RST SM 0603 RC21 47K PM5	6635	932221745685	DIO REC SM SSA34-E3 (VISH)
3517	212211805683	RST SM 0603 RC0603 100K PM5	3953	232270260103	RST SM 0603 RC21 10K PM5	6662	933913910115	DIO SIG SM BAS32L (PHSE)
3518	232270260103	RST SM 0603 RC21 10K PM5	3954	212211805656	RST SM 0603 RC0603 1K PM5			
3519	232270260103	RST SM 0603 RC21 10K PM5	3955	232270260473	RST SM 0603 RC21 47K PM5	7622	932217440685	TRA SIG SM KRC102S (KECO)
3520	232270260103	RST SM 0603 RC21 10K PM5	3956	232270260103	RST SM 0603 RC21 10K PM5	7625	932216638668	FET POW SM SI5441DC-E3 (VISH)
3521	212211805683	RST SM 0603 RC0603 100K PM5	3957	212211805656	RST SM 0603 RC0603 1K PM5	7631	932222352668	IC SM TPS54357PWP (T100)
3522	232270260103	RST SM 0603 RC21 10K PM5	6951	932214603682	LED VS L-3WYGW (KIEL)	765		

## Different Parts List

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Diversity of 200WP7EB/00 compared with 200P7ES/00

Item	12NC	Description
	863900017042	200WP7EB/00
0602	313811709571	E-D.F.U.
0130	313815569641	ENERGY STAR LABEL
0004	313815761131	SUPER ERGO BASE ASSY
0140	313800990651	PROCESS BOX
0300	282206240595	INK CARTRIDGE -EP-T
0030	313815761231	BEZEL ASSY
0031	313815418101	BEZEL
0032	313815417971	BEZEL-DECO
0033	313815417981	CONTROL KNOB
0040	313815761121	BACK COVER ASSY
0042	313815418001	MIDDLE COVER
0116	313810440571	HOUSING COVER

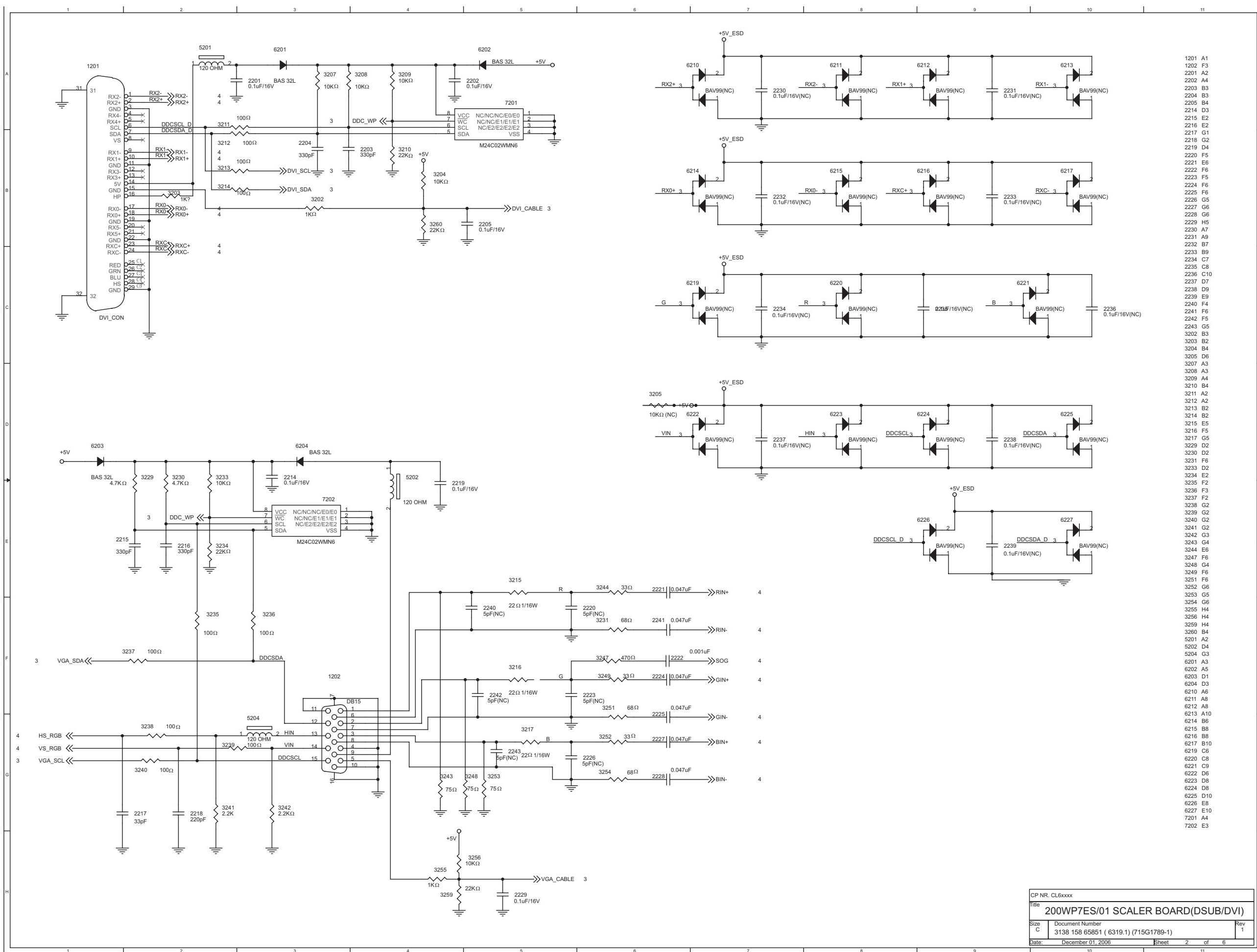
Approval	Position	Signature	Date

CP NR. CL6xxxx		
Title <b>200WP7ES/01 SCALER BOARD(Contents)</b>		
Size A	Document Number 3138 158 65851(6319.1) (715G1789-1)	Rev 1
Date: December 01, 2006	Sheet 1	of 6

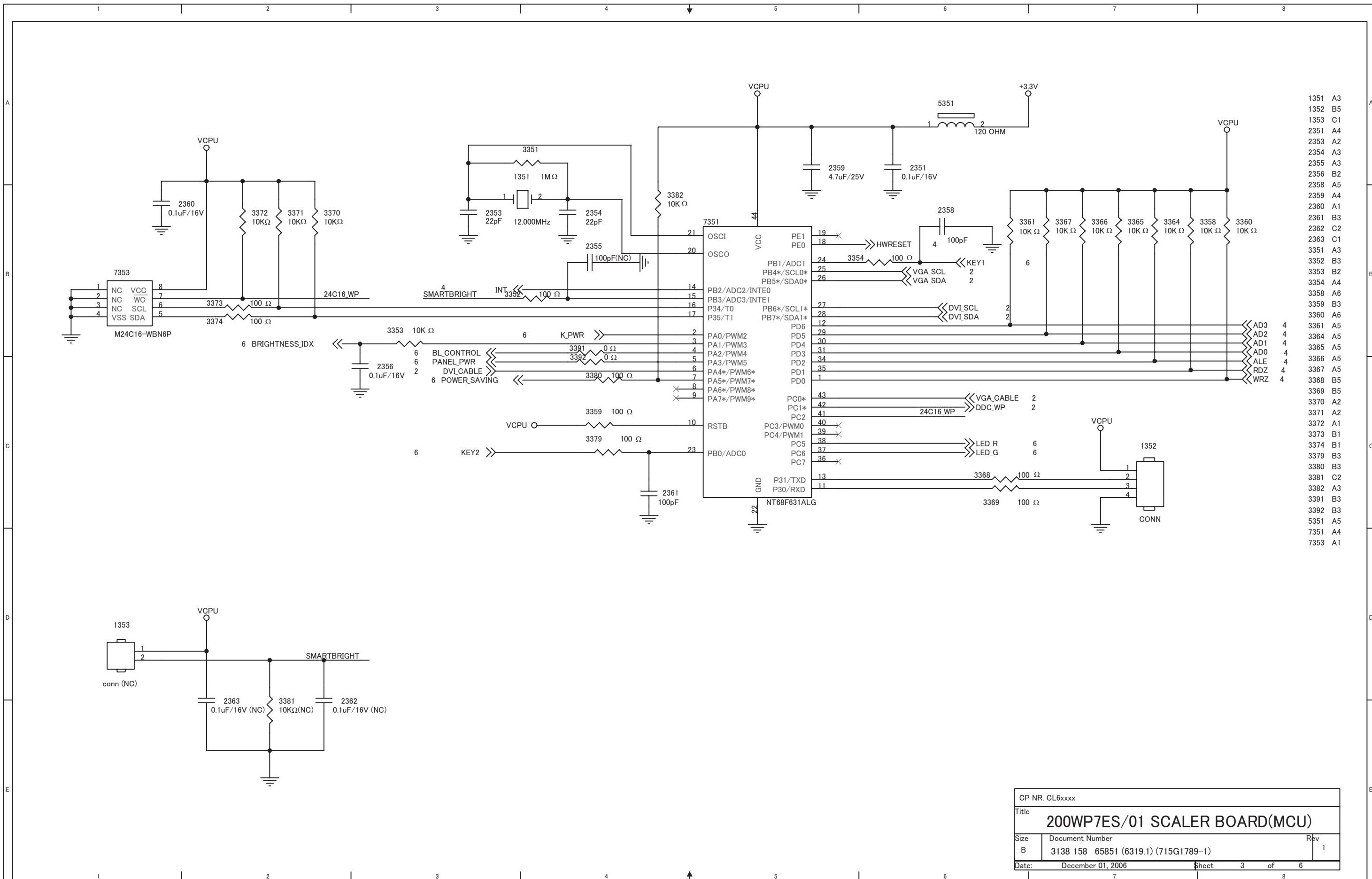
## Scaler Diagram-2

200WP7 LCD

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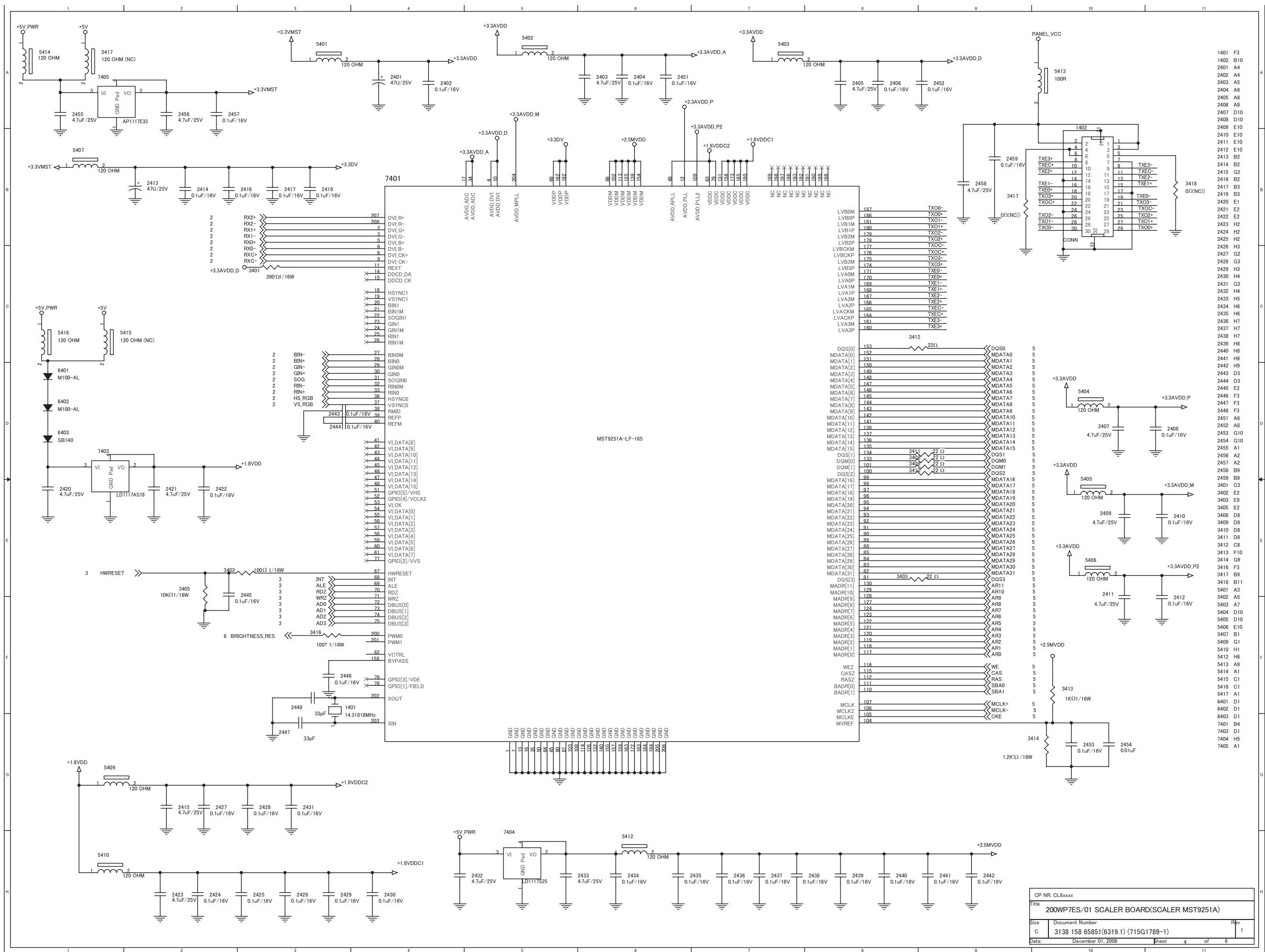
## Scaler Diagram-3



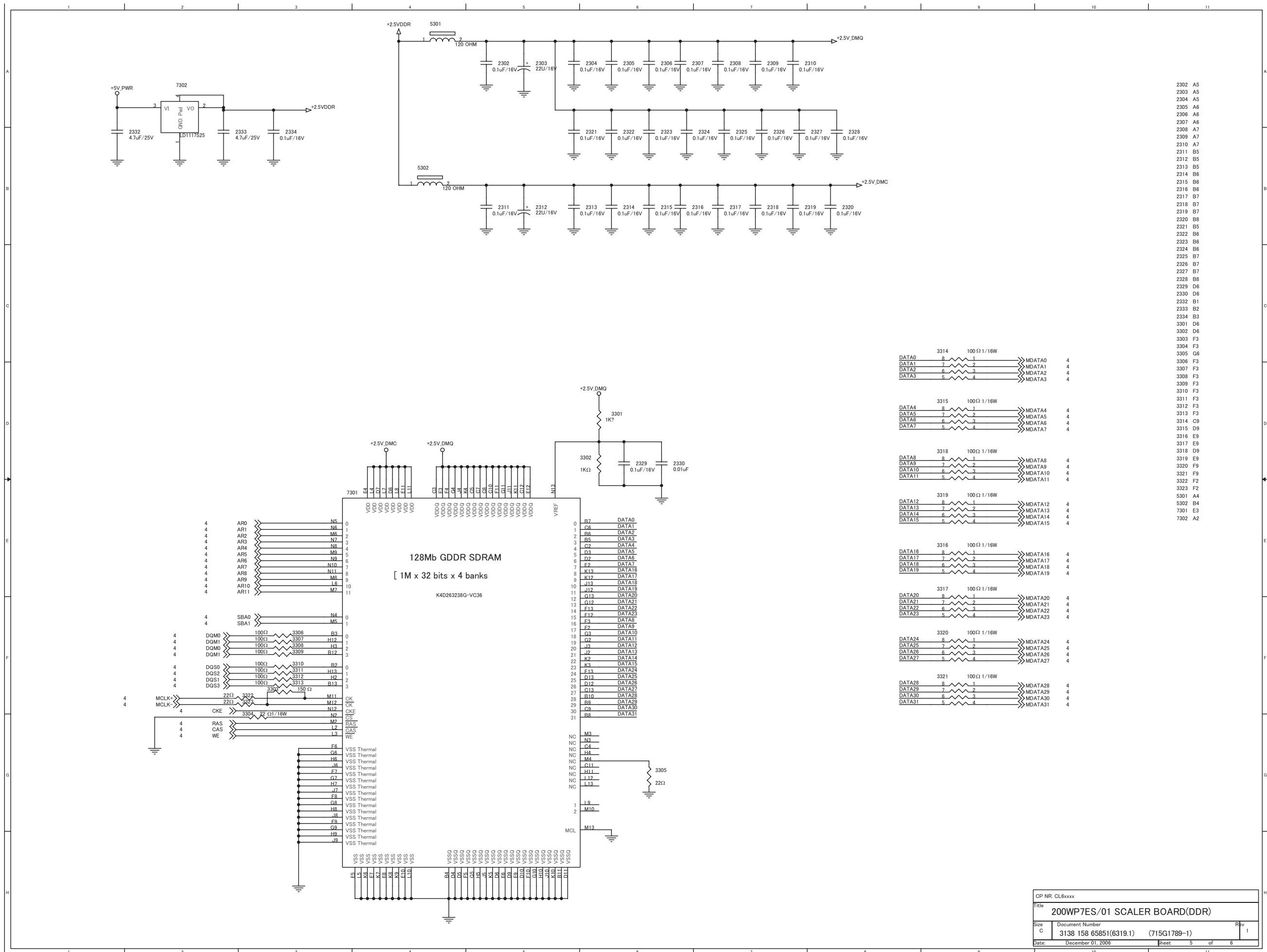
# Scaler Diagram-4

200WP7 LCD

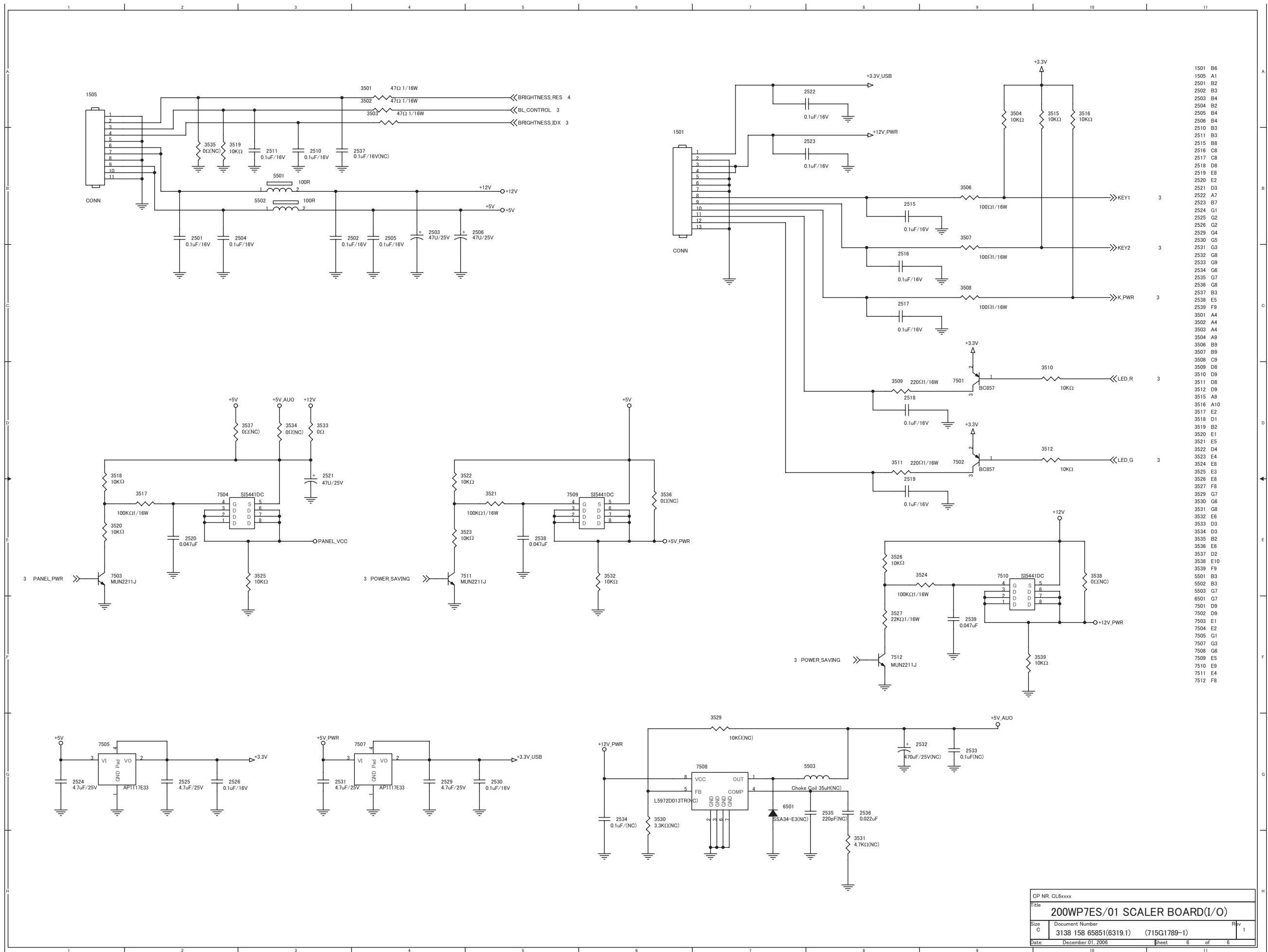
91



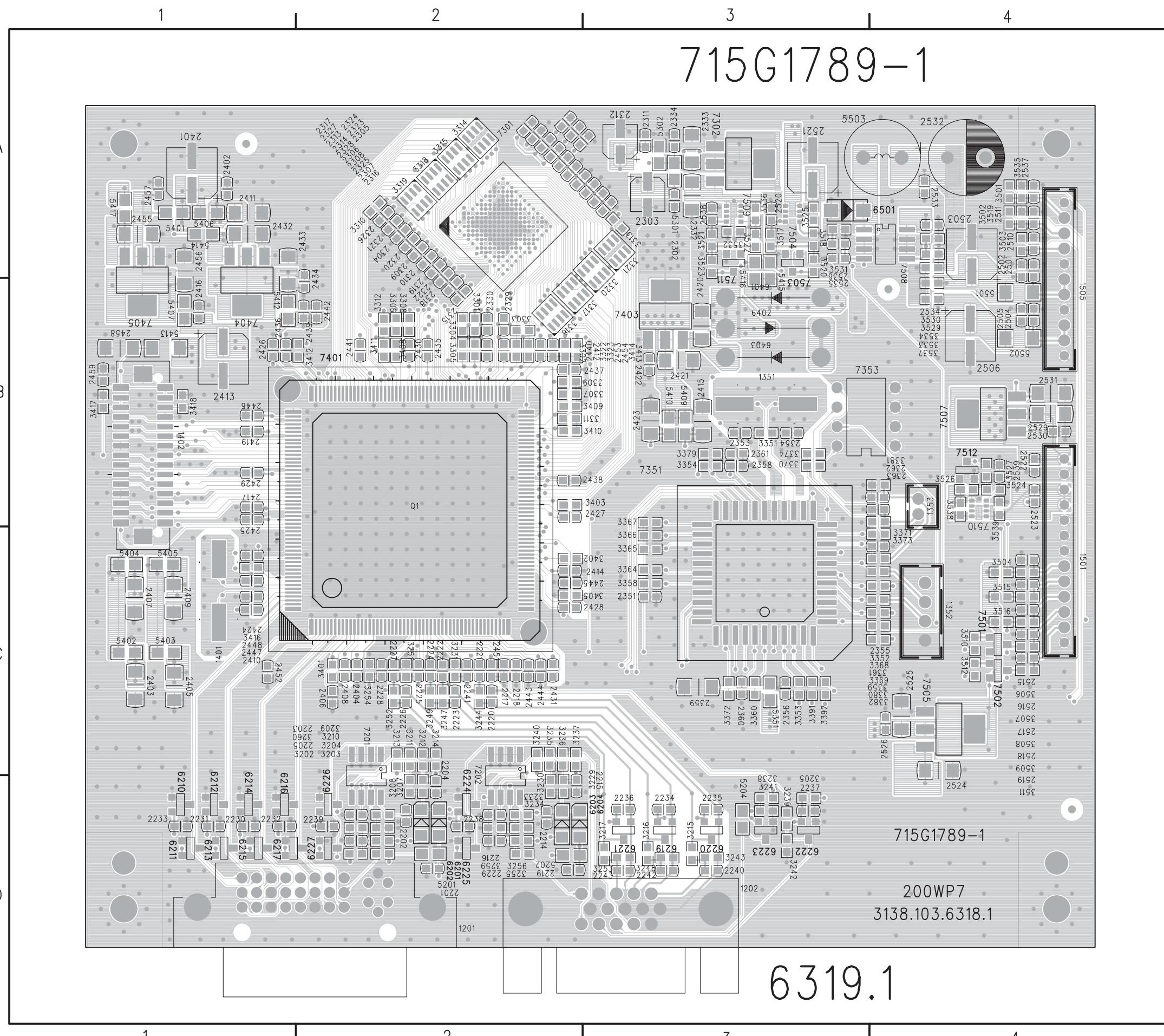
## Scaler Diagram-5



## Scaler Diagram-6



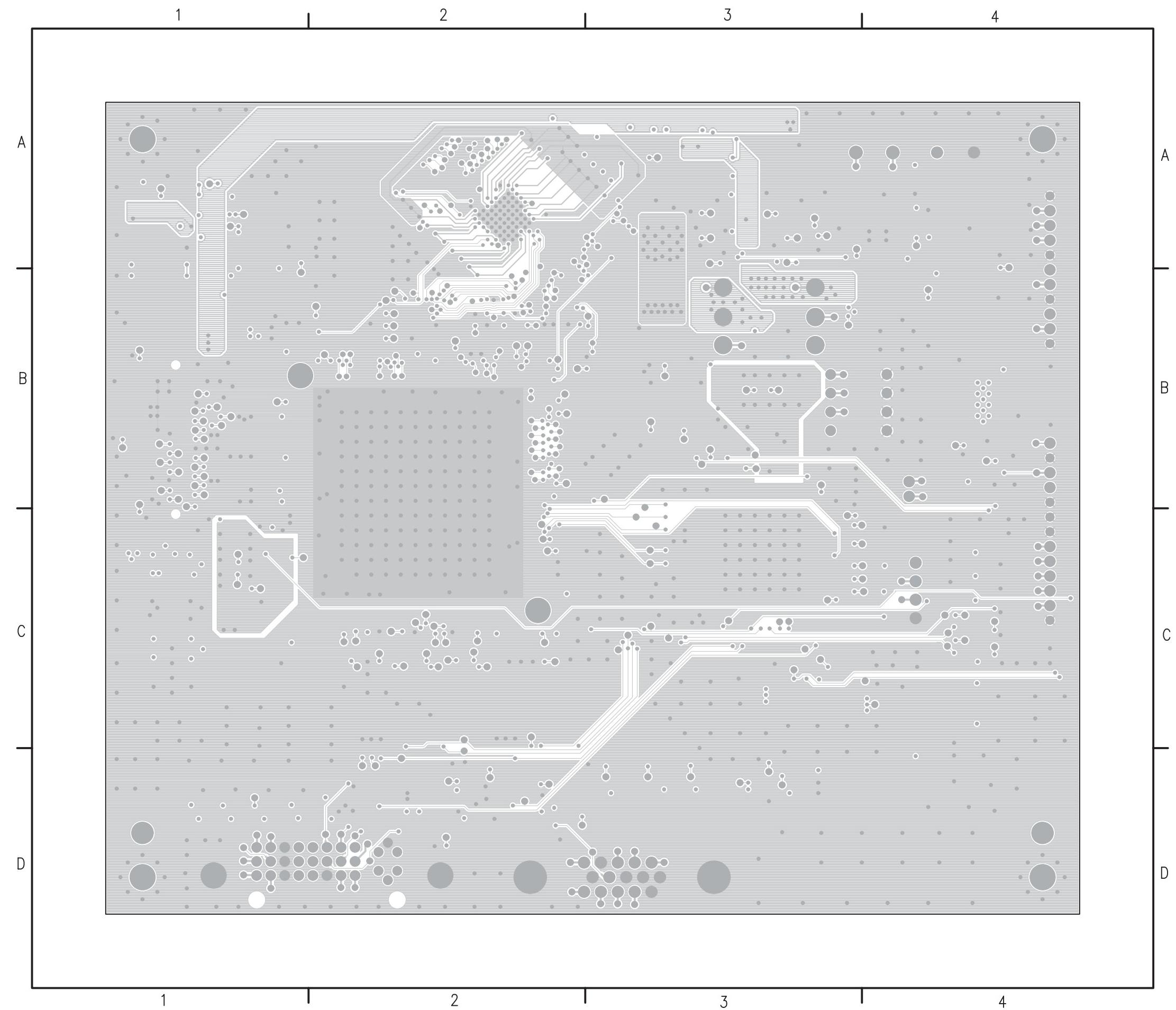
## Scaler Board C.B.A.-1



# Scaler Board C.B.A.-2

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## Updated Parts

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According to the ECO-CA005956, Add QSG-ergo base and Jig on P.E. bag for 200WP7, Following is the detail

1. Item 0129 Qty from 1 to 2, and add new Item: 0142-313815524581 - QUICK SET GUIDE-ERGO BASE

2.

REF	12NC	Description
1	863900016908	200WP7ES/00
2	863900017042	200WP7EB/00
3	863900017096	200WP7ES/01
4	863900017104	200WP7EB/01

REF	Action	Item	12NC	Description
1, 3	From	0004	313815761011	SUPER ERGO BASE ASSY
	To	0004	313815761012	SUPER ERGO BASE ASSY
2, 4	From	0004	313815761131	SUPER ERGO BASE ASSY
	To	0004	313815761132	SUPER ERGO BASE ASSY

According to the ECO-CA006109, designer changed the scaler board version of 200WP7-AUO to improve phase and tail noise problem, following is the detail

REF	Action	Item	12NC	Description
ALL	From	0001	313810363221	SCALER PCB
	To	0001	313810363222	SCALER PCB
	From	2425	202203100205	ELCAP SM RVS 25V 47U PM20 R
			202203100206	ELCAP SM HV 25V 47U PM20 R
	To	2425	823827736068	ELCAP 470UF 16V EB
			823827736069	ELCAP 470UF 16V LZ
	From	3231	212211805642	RST SM 0603 RC0603 75R PM5 R
			232270260759	RST SM 0603 RC21 75R PM5 R
	To	3231	212211805643	RST SM 0603 RC0603 100R PM5 R
			232270260101	RST SM 0603 RC21 100R PM5 R
	From	3251	212211805642	RST SM 0603 RC0603 75R PM5 R
			232270260759	RST SM 0603 RC21 75R PM5 R
	To	3251	212211805643	RST SM 0603 RC0603 100R PM5 R
			232270260101	RST SM 0603 RC21 100R PM5 R
	From	3254	212211805642	RST SM 0603 RC0603 75R PM5 R
			232270260759	RST SM 0603 RC21 75R PM5 R
	To	3254	212211805643	RST SM 0603 RC0603 100R PM5 R
			232270260101	RST SM 0603 RC21 100R PM5 R
ALL	Del	3261	212211805631	RST SM 0603 JUMP. MAX 0R05 R
			232270296001	RST SM 0603 JUMP. MAX 0R05 R
ALL	Del	3262	212211805631	RST SM 0603 JUMP. MAX 0R05 R
			232270296001	RST SM 0603 JUMP. MAX 0R05 R
ALL	Del	3263	212211805631	RST SM 0603 JUMP. MAX 0R05 R
			232270296001	RST SM 0603 JUMP. MAX 0R05 R
ALL	New	5205	242254900601	IND FXD 0603 EMI 100MHZ 30R R
			242254943769	IND FXD 0603 EMI 100MHZ 30R R
ALL	New	5206	242254900601	IND FXD 0603 EMI 100MHZ 30R R
			242254943769	IND FXD 0603 EMI 100MHZ 30R R
ALL	New	5207	242254900601	IND FXD 0603 EMI 100MHZ 30R R
			242254943769	IND FXD 0603 EMI 100MHZ 30R R

## Revision list

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Manual 12NC(VERSION)	Release Date	Change Instruction
3138 106 10503	Apr-7-06	Initial Release
3138 106 10503	Apr-20-06	Panel changed(P84)
3138 106 10503	Apr-28-06	Add QSG-ergo base and Jig on P.E. bag (P86)
3138 106 10503	Jun-02-06	Change scaler board version(P86)
3138 106 10504	Dec-04-06	Add 200WP7ES/01(P88~P95)